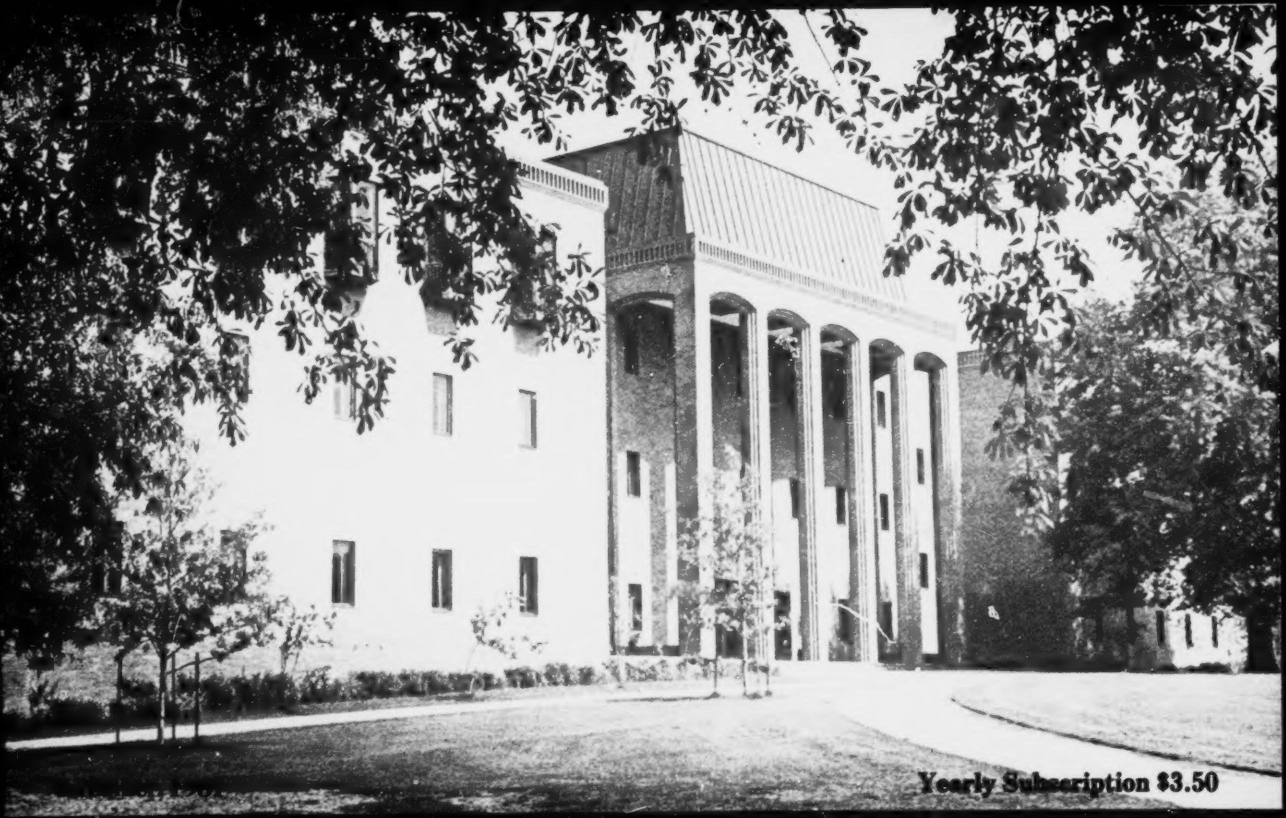
/ U 3255-2 (A)

MISSISSIPPI BUSINESS REVIEW


Yearly Subscription $3.50

Second Class Postage Paid at
Mississippi State, Mississippi 39762

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Return Postage Guaranteed

BEST AVAILABLE COPY

VOLUME XLIII NOVEMBER, 1981 NUMBER 5

Dr. Halim Bishara

Dr. Halim Bishara is a Professor of Finance and Head of the Department of Finance and Management Science, College of Commerce at the University of Saskatchewan in Saskatoon, Saskatchewan, Canada.

TABLE OF CONTENTS

Growth and Expansion Patterns of Canadian Corporations: Results of Survey 3
Indexes of Selected Mississippi Economic Indicators 13
The State Motto 13
Meet the Faculty
  Dr. Kathie Simon Gilbert 14
  Dr. Orris L. Odom, II 14
New and Expanded Industry 16
State Personal Income, Second Quarter, 1981 16
State Economic Indicators 17
Business Activity By City 18
SMSA 19
Indicated Sales (Retail and Wholesale) 20

James D. McComas, Ph.D.
President, Mississippi State University
Gaines M. Rogers, Ph.D.
Dean, College of Business and Industry
Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing
Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics

Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics

Louis M. Capella, D.B.A.
Editorial Advisor

Orris L. Odom, II, Ph.D.
Editorial Advisor

Gary A. Williams, D.B.A.
Editorial Advisor

Peggy Zimmerman
Assistant to the Director

Donna M. Reddish
Assistant Editor

Dale Adams
Secretary

Diane Dendy
Secretary

Sadia Al-Jibouri, M.B.A.
Research Assistant

Guy Patterson, B.S.
Research Assistant

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

Growth and Expansion Patterns of Canadian Corporations: Results of Survey

by

Halim I. Bishara

INTRODUCTION

During the 1960's and 1970's, there has been a clear trend among Canadian business corporations to diversity into different product lines or business activities. There has been no study that aimed specifically at analyzing this trend with regard to courses and implications for corporate management. This survey is an attempt to obtain reliable exploratory information that may shed light on the growth and expansion patterns of Canadian corporations.

METHODOLOGY

The basic instrument used for collecting data was a questionnaire addressed to senior company officials.

SAMPLE CHARACTERISTICS

The questionnaire was mailed to 300 firms selected at random from a population of 1,300 Canadian Corporations. Names of companies were taken from **Financial Post Survey of Industrials**. After a follow-up was made, a total of 79 valid responses were received giving a response rate of 29.5%.

INDEPENDENT VARIABLES

Three variables were selected for purposes of classifying responses to the questions:

1. **Growth Rate**

This is the compound annual growth rate for the firm's total assets. For most firms this is the geometric mean over the five year period, 1975-79. In some cases, due to non-availability of complete data, the four year period, 1975-78, had to be used. Cross tabulation and chi-square tests were used in the analysis. The growth rates were divided into two groups: less than 10% for the first group, low growth firms; and from 10% to 45% for the second group, high growth firms. This division puts the sample into two roughly equal groups.

The source of information is the Card File Index Service of the Financial Post.

2. **Total Assets**

Total assets were used as a measure of the size of the firm. As of 1975, total assets ranged from $5 million to more than $3 billion. For cross tabulation purposes the firms were classified into two groups. The first group is comprised of firms with total assets of up to $100 million and the second group of assets of more than $100 million.

The average asset size of firms in the first group was about $47.5 million and about $664.5 million for the second group. The **Financial Post Survey of Industrials** and the Card Index Service were the major source of information.

3. **Industry**

The firms were divided into six broad categories: 1) chemicals, 2) manufacturing, 3) services, 4) construction, 5) merchandising, and 6) miscellaneous. While it is desirable to have a very detailed classification so that each group is relatively homogeneous within itself, the sample size and statistical procedures used constrain the number of categories allowable. It is felt that these six categories provide a reasonable compromise between these conflicting demands.

The mean growth rates and assets for the various industry groups are as follows:

Industry	Average Annual Growth Rate	Average Assets [$ Million]
Chemicals	13.8%	598
Manufacturing	10.3	453
Services	16.5	223
Construction	14.1	294
Merchandising	11.8	250
Miscellaneous	28.9	54

DEPENDENT VARIABLES

These are all the responses to the various sub-questions. In most cases, the frequencies of the response categories were used, although sometimes interval scaled responses were used.

Tests of association were run for all the responses with the independent variables. In most cases the chi-square test has been found to be the most suitable for this kind of data.

The questions were partitioned into five broad categories: 1) Motivation to expand, 2) Patterns of corporate growth, 3) The dynamics of expansion, 4) Coping with change, and 5) Expectation for the future. Each group of questions is discussed separately.

FINDINGS

I. MOTIVATION FOR EXPANSION

Nineteen different possible motives were listed and the firms indicated whether they professed any of them. They were also asked to rank the motives in order of importance and to indicate how far they were successful in realizing them. The results are shown in

TABLE 1

MOTIVES OF EXPANSION AND THEIR REALIZATION

Motives	Frequency of Response [%]			Independent Variable Associated With	Level of Sign. of Chi-sq.	Motives Realized Frequency of Response [%]				
	Yes	No	Rank			Yes	Partly	No	Don't Know	Rank
Increase firm's P/E ratio	33	67	6			42	17	28	7	7*
Allow more use of leverage	23	77	8	GROWTH	12%	56	22	9	13	9
Achieve stability and reduce risk	58	42	2			54	33	9	5	2
Maximize firm's size	42	58	4			68	27	0	6	4
Achieve tax advantages	17	83	10	INDUSTRY ASSETS	1% 15%	57	0	29	14	13
Permit flexibility in financial accounting	6	94	12			20	20	40	20	18
Achieve synergy	47	53	3	INDUSTRY ASSETS	15% 16%	60	31	6	3	3
Obtain the possession of trained and experienced personnel	19	81	9			65	25	5	5	10
Grow faster than the growth rate of the base industry	40	60	5	ASSETS	2%	76	10	7	7	5
Increase company profitability	75	25	1			61	29	8	2	1**
Achieve balanced expansion	47	53	3			53	31	13	3	6
Gain larger markets, prestige and power	29	71	7	ASSETS	7%	52	35	9	4	8
Avoid anti-trust laws	3	97	13			22	11	56	11	19
Control liquid assets or borrowing ability of acquiree firms	6	94	12			50	0	40	10	16
Existence of an attractive investment at an acceptable price	23	77	8			47	20	27	6	11
Exhance research and technical skills	10	90	11			27	9	46	18	15
Use research establishment and distribution network	6	93	12	ASSETS	5%	33	11	33	22	17
Firm's primary line is not attractive for expansion, hence diversity	17	83	10			53	12	18	18	12
International trade opportunities encourage diversification	19	81	9			36	7	36	21	14***

---

* Associated with "growth" with a level of significance of chi-square of 9%

** Associated with "growth" with a level of significance of chi-square of 1%

Table I. The five most important motives, by rank of order, were: 1) to increase company profitability, 2) to achieve stability and reduce risk, 3) to achieve synergy of some sort, 4) to maximize firm's size, and 5) to grow faster than the growth rate of the base industry.

The ranks for the level of realization are the same for these five motives. The mean success rate on these five motives was about 64%. This means that the firms were rather successful in attaining their major goals in expansion.

Some of the motives were associated with certain independent variables.

The motive "to increase company profitability" which ranked first was found to be associated with the growth rate of the firm. More than 79% of fast growing firms achieved the profitability objective, while only 35% of the slow-growing firms did that. The chi-square test was significant at an error level of 1%.

Also, the motive "to achieve stability and reduce risk" which ranked second was achieved by 84% of the respondents. However, the chi-square test was not significant.

The motive "to achieve synergy," which ranked third is related to asset size. More than 57% of the larger firms versus 38% of the smaller ones showed interest in this motive.

The motive "to maximize the firm's size" which ranked fourth was highly realized by the responding firms. It had a response rate of 93%. The motive "to grow faster than the base industry" was

TABLE 2

RANKING OF PROPORTIONS OF EACH TYPE OF EXPANSION*

Industry	Vertical Integration	Horizontal Integration	Product Diversification	National Market Diversification	Intn'l. Market Diversification
1950s:					
Chemicals	1	5	-	2	2
Manufacturing	5	3	-	2	2
Services	3	1	-	2	2
Construction	2	4	-	1	2
Merchandising	4	2	-	2	1
Miscellaneous	-	-	-	-	-
Overall	2	1	5	3	4
1960s:					
Chemicals	3	5	3	2	4
Manufacturing	2	2	2	4	1
Services	5	4	1	5	2
Construction	4	3	5	1	4
Merchandising	6	1	4	3	3
Miscellaneous	1	6	5	5	4
Overall	2	1	5	3	4
1970s:					
Chemicals	3	5	5	3	5
Manufacturing	4	2	3	4	1
Services	6	4	1	5	2
Construction	1	6	2	2	3
Merchandising	5	3	4	1	4
Miscellaneous	2	1	5	5	5
Overall	2	1	3	4	5

*see Appendix for the derivation of the ranks.

related to asset size. Over 47% of the larger firms, versus 26% of the smaller firms, pursued it. The realization rate of this motive was over 93%. The results were statistically significant at an error level of 2%. The motive "to achieve more use of leverage" was related to total assets. While 26% of the larger firms subscribed to it only 10% of the smaller firms did so. However, this motive was realized in 85% of cases. Its chi-square test was significant at an error level of 1%. The motive "to increase the firm's price/earnings ratio," was related to the firm's growth rates. While 63% of the high-growth firms realized their motive, only 31% of the slow-growth firms did so.

To sum up, it can be stated that firms were motivated by a wide variety of motives for their growth. However, the five most important motives listed above got an average "yes" response of 52.4%. This is to be compared with an overall response average of 27.4%. Therefore, they can be considered to be the major motivating forces for expansion. Firms having assets over $100 million exhibited different behavior from their smaller counterparts in connection with a number of motivating factors. They emphasized the following factors: the drive to achieve synergy; the desire to grow faster than the industry average; the desire to gain more markets, prestige and power; an attempt to achieve tax advanatages; and the desire to use research and distribution capabilities of acquired firms. Whether it was the large size of the firms that made them aspire for such dominating goals, or it was the pursuit of such goals that had led them to be so large, is a question beyond the scope of this study.

The attempt to achieve tax advantages and synergy in operation seemed more common in some industries than others. The use of leverage was related to growth rate, whereby the slow growing firms appeared to have a greater preference for it.

The realization of some of these motives was clearly related to the company size or to its rate of growth. Company profitability, increase in P/E ratio, and international diversification were achieved much more frequently by the high-growth firms, than the low-growth ones. Therefore, it is apparent that fast growing firms tended to realize the objectives they set for themselves more often than the slow-growing ones.

II. PATTERNS OF CORPORATE GROWTH, 1950-79

EXPANSION OVERTIME

The firms were asked to give the percentage of each of five different types of expansion they experienced during the 1950's, 1960's, and the 1970's. The results are tabulated, separately for each period, in Table 2.

It can be clearly stated that the major part of expansion in the past three decades was horizontal. The second most important type of expansion was vertical. Domestic market diversification ranked third up to the 1960's, then fell to fourth position in the 1970's. International market diversification remained at fourth position during the 1950's and 1960's and fell to fifth in the 1970's. Product diversification jumped from fifth position in the earlier decades to third during the 1970's. This could reflect the diminution of

TABLE 3

MODES OF EXPANSION

	Frequency of Responses Associated With				Significance of Chi-Square	
	Yes		No			
	No.	[%]	No.	[%]		
Internal expansion during 1960's	70	90	8	10		
Internal expansion during 1970's	73	94	5	6		
External acquisitions during 1960's	39	50	39	50		
External acquisitions during 1970's	53	68	25	32		
Both internal and external (1960's)	34	44	44	56	Industry	7%
Both internal and external (1970's)	43	56	34	44	Industry	3%

possibilities in geographical expansion.

When the firms were asked about the way they went about expanding, they gave the following responses which are summarized in Table 3.

The percentage of firms that used acquisitions for expansion purposes went up from 51% in the 1960s to 68% in the 1970s. Takeovers have been considered a very popular means of corporate expansion.

The merchandising and miscellaneous industries during 1960's, as well as merchandising, construction and miscellaneous industries during 1970's used both internal and external means of expansion at a higher rate than the rest of the industries studied.

Above Average Growth:		**Below Average:**	
1960's:			
Merchandising	75%	Construction	40%
Miscellaneous	67%	Services	39%
		Chemicals	31%
		Manufacturing	23%
1970's:			
Merchandising	81%	Services	54%
Construction	70%	Manufacturing	31%
Miscellaneous	67%	Chemicals	23%

PRESENT STATUS OF THE FIRMS WITH REGARD TO GROWTH

The firms were asked about their present standing and current efforts regarding growth. Table 4 shows the frequencies of different responses and indicates the association of certain responses with the independent variables. With 72% of the respondents engaged mainly in one base industry, the firms in the same are not predominantly highly diversified. Vertical integration was mainly related to the size of assets, with a chi-square test significant at the 1% error level. It was found that 65% of the firms over 100 million were vertically integrated. Among the smaller firms this proportion was only 29%. Vertical integration also had a chi-square relation with industry at the 2% error level. Some industries (chemicals, manufacturing, construction) were very highly integrated compared to others (miscellaneous, services, merchandising). Vertical integration was also connected with growth rates. Fifty-four percent of the high-growth firms were vertically integrated as opposed to 35% of the low-growth ones. More of the high-growth firms expect to pursue more diversification in the future (77%) compared to low-growth firms (33%).

The average horizontal acquisition tended to be larger than the average vertical takeover.

TABLE 4

NATURE OF CURRENT GROWTH OF CANADIAN CORPORATIONS

	Frequency of Responses Associated With				Significance of Chi-Square	
	Yes		No			
	No	[%]	No	[%]		
Engaged mainly in one base industry	57	72	21	28		
Vertically integrated	36	46	42	54	Assets Industry Growth	1% 2% 16%
Engaged in horizontal combinations	31	41	47	59		
Diversified in unrelated product lines or business activities	21	28	57	72		
If answer is no, do you expect to diversity in the future	13	27	36	73		
If answer is yes, do you expect to continue diversifying in the future	14	61	8	39	Growth	11%
Does your firm have an international business institution	36	47	41	53		
Do you intend to build an international business institution	13	17	65	83		

TABLE 5

CRITERIA OF THE ACQUIRING FIRMS

	Frequency of Response [%]				Associated With	Significance of Chi-Square
	Yes	Same—Times	No	Rank		
To achieve a specified sales level	28	15	57	6		
To achieve a specified profit margin	44	10	46	2		
To achieve a specified E.P.S.	40	13	47	3	ASSETS	8%
To achieve a specified R.O.I.	73	3	24	1		
To achieve a specified growth rate	36	15	49	5		
To achieve a specified degree of synergy	35	22	43	4		
To achieve a specified degree of diversification	15	18	67	8	INDUSTRY	8%
To meet demand of divisions	19	11	70	9	INDUSTRY	9%
To meet demands of management	27	7	66	7		
Capital budgeting criteria used	39	15	46	3		
No policy	19	4	77			

III. DYNAMICS OF EXPANSION

In this section the ways and means used by different firms in their expansion efforts are discussed.

BASIS OF SELECTION

When the firms were asked about the data they used in making their takeover decisions, the majority of the responses, over 75%, stated that accounting data were utilized in assessing acquisitions and in evaluating the impact on the firm's performance. Market values ranked second to accounting data in both situations. However, many firms used both types of information.

When the firms were asked about the criteria used in making a takeover decision they gave the responses shown in Table 5. The important criteria used, rate of return of investment, profit margin, earnings per share, and synergy effects seem to be consistent with the motives of expansion discussed above. The third most important criterion, "to achieve a specified earnings per share," had a relation with total assets at the 8% level of significance. This criterion was used more extensively by larger firms, compared to the smaller ones.

"To achieve diversification" and "to meet the demands of divisions" were associated with the industry variable. These two criteria were emphasized mainly by the merchandising, manufacturing, and miscellaneous industries.

EXPECTATIONS OF ACQUIRORS

When the firms were asked about their expectations in takeover cases, they gave the responses shown in Table 6. In case of takeovers the potential for future growth was given the first priority by respondents. This is commensurate with the motives discussed above. The requirement of being in a certain industry and of the right size ranked second. Providing diversification or lessening competition were the least expectations. Expectations of synergy are also in line with the fundamental motives.

The firms were asked whether in the past they acquired firms with a specific price earnings ratio relative to their own P/E ratio. The replies were: Higher 7%; Lower 9%; Higher or Lower 10%; No policy, 7%. Although the majority of firms had no policy, those who did have one had a significant relation between their policy and their growth rate. Those firms that had a consistent policy of acquiring firms with either higher or lower price earnings ratios, tended to be the high growth firms, while those that took either higher or lower P/E ratio firms, were more in the low-growth group. This suggests that having a consistent P/E ratio policy aids in growth.

The size of the acquired firm tended to be rather small compared to that of the acquiror as shown from the following.

Size of Acquiree to Acquiror	Responses
0-10%	41%
10-20%	29%
20-30%	17%
30-50%	6%
50-75%	5%
75- %	2%

TABLE 6

EXPECTATIONS OF ACQUIROR IN TAKEOVERS

	Frequency of Response [%] Yes	Not Necessary	No	Rank
Competent Management	49	29	23	4
Management That Will Remain	35	36	29	6
A Specified Rate of Growth	27	16	57	7
Potential for Future Growth	79	1	20	1
Must Add or Provide Diversification	10	25	65	9
Must Occupy Established or Leadership Position in Industry	13	28	59	8
Must Provide Some Synergy	58	10	32	3
Must be in a Certain Industry or Technology	58	12	30	2*
Must be of the Right Size	58	8	34	5
Acquisition must Reduce Competition	3	24	73	10
No Stated Requirements	11	5	84	—

*Associated with "Industry" with a level of significance of chi-square of 4%.

Findings also show that most firms were indifferent to the timing of acquisitions. The situation that was preferred was when expected future economic conditions seemed to be favorable and to a less degree during favorable economic or capital market conditions. It is apparent, therefore, that the firms' internal conditions were more important in a takeover decision, rather than external factors. Avoidance of unfavorable economic conditions for takeovers was associated with the firm's assets. The chi-square test was significant at =0.13. Of the smaller firms, 57% avoided these conditions, while only 35% of the larger ones were averse to purchasing at such times. The rest of the firms were either indifferent or willing to acquire other firms even during unfavorable economic conditions.

Intermediaries Employed in Acquisitions:

A variety of intermediaries was used by firms in merger and acquisition cases. Table 7 shows the use and relative importance of such intermediaries. There was a much greater use of intermediaries in the identification of merger candidates. Only fewer firms (33%) used intermediaries for negotiations. It is interesting to note that merger brokers were ranked sixth among the intermediaries used. Professionals, such as legal counsel and chartered accountants, appeared to be much more important in takeovers. The prime importance of investment dealers arises when takeover bids are to be made public through a syndicate of investment firms.

Merger brokers were used more frequently in some industries than others, and the difference is significant with a chi-square acceptable at =0.10. The difference in behaviour among industries was as follows:

Industries with Above Average Utilization:		Industries with Below Average Utilization:	
Miscellaneous	67%	Services	8%
Merchandising	25%	Chemicals	0%
Manufacturing	23%		
Construction	20%		

Methods of Financing Acquisitions

Various methods of financing are usually available for acquisitions. They are divided into four broad categories. The firms were asked to check the ones used by them. The responses were: Working capital, 73%; Long term debt, 62%; Preferred stock, 18%; Common stock, 20%; and other sources, 1%.

The use of long-term debt had a chi-square test associated with assets significant at the 4% error level. Of the larger firms, 76% used long-term debt financing compared to 50% of the smaller ones. Larger firms have easier access to capital market borrowing. The use of preferred stock also had a chi-square test association with assets significant at the 2.0% error level. Of the larger firms, 29% used this method as opposed to only 7% of the smaller

TABLE 7

INTERMEDIARIES EMPLOYED IN ACQUISITION CASES

	Frequency of Response Yes	Frequency of Response No	Rank	Relative Importance of Intermediaries Intermediary	% of Firms Using
In Identifying Prospective Acquisitions	63	37	1	Investment Dealers	39
In Negotiations for Takeovers	33	67	2	Legal Counsel	33
Principal Intermediaries Used					
Chartered Banks	27	73	3	Chartered Accts.	30
			4	Chartered Banks	27
Management Consultants	22	78	5	Management Consultants	22
Merger Brokers	19	81	6	Merger Brokers	19
Chartered Accountants	30	70	7	Stock Brokers	10
Legal Counsel	33	67	8	Others	4
Investment Dealers	39	61			
Stock Brokers	10	90			
Others	4	96			

*Associated with "Industry" with a level of significance of chi-square at 10%

firms. Apparently, larger firms have easier access to funds through public issues than smaller ones.

IV. COPING WITH CHANGE

The firms were asked about the extent to which they altered the operations of the acquired firms.

Most firms (80%) preferred to have the same management group continue after the acquisition. This tendency was more pronounced in some industries such as merchandising (94%), manufacturing (92%), construction (90%), and services (77%), while the chemical industry had a response rate of 31% in favor of this factor. The chi-square test was statistically significant at an error level of 0.01.

Industries with Above Average Utilization		Industries with Below Average Utilization:	
Miscellaneous	67%	Services	8%
Merchandising	25%	Chemicals	0%
Manufacturing	23%		
Construction	20%		

Methods of Financing Acquisitions

Various methods of financing are usually available for acquisitions. They were divided into four broad categories. The firms were asked to check the ones used by them. The responses were: Working capital, 73%; Long term debt, 62%; Preferred stock, 18%; Common stock, 20%; and other sources, 1%.

The use of long-term debt had a chi-square test associated with assets significant at the 4% error level. Of the larger firms, 76% used long-term debt financing compared to 50% of the smaller ones. Larger firms have easier access to capital market borrowing. The use of preferred stock also had a chi-square test association with assets significant at the 2.0% error level. Of the larger firms, 29% used this method as opposed to only 7% of the smaller firms. Apparently, larger firms have easier access to funds through public issues than smaller ones.

IV. COPING WITH CHANGE

The firms were asked about the extent to which they altered the operations of the acquired firms.

Most firms (80%) preferred to have the same management group continue after the acquisition. This tendency was more pronounced in some industries such as merchandising (94%), manufacturing (92%), construction (90%), and services (77%), while the chemical industry had a response rate of 31% in favor of this factor. The chi-square test was statistically significant at an error level of 0.01.

The retention of the management team was more common among smaller firms (91%) compared to the larger ones (67%). Furthermore, a good number of firms (58%) allowed large acquisitions to operate autonomously. This was true among the construction, services and miscellaneous industries. However, the merchandising and manufacturing industries used it moderately. But the chemical industry was highly centralized as far as its operations management is concerned.

It was clear from the responses that decentralization was quite common across the sample, with 52% of the respondents stating that they were moving more and more in that direction. Of the large firms 68% were getting decentralized, compared to 38% of the smaller ones. This difference is significant at an error level of 0.04.

Also, the responses indicated that the acquiror's attained their goals related to new products during the previous 5-year period. They stated that the areas where performance was above expectations were sales value and market share. Areas where performance matched their goals were introducing successful products and the adequacy of cost control.

When they were asked to specify the problems that faced them in attaining their growth goals they gave the responses shown in Table 8. The most significant problems were: diminishing opportunities for internal growth, market analysis and strategic planning, and diminishing opportunities for adequate growth. Financing did not create significant problems.

On the whole, the firms in the sample seemed to be adapting quite well to change. Their organization structures were flexible enough to allow functional specialization and departmental autonomy. Top management was occupied more with basic strategic issues, while the implementation of programs was left to lower levels of the management group. A major problem faced in growth was related to environmental factors, such as diminishing growth opportunities. Internal problems were relatively unimportant. Finally, the success of new product performance confirmed the high level of achievement among these firms.

V. EXPECTATIONS FOR THE FUTURE

NATURE OF EXPANSION

Following the pattern of the past three decades, the management expectations were that most of the expansion would be horizontal combination, followed by vertical integration. However, the third most important area of future expansion would be in the area of international markets. This is a decided change from the past. Apparently Canadian business corporations have grown to the point where the domestic market does not offer enough prospects for further growth. This is the reason the national market was considered the least important factor for the future growth.

Firms expect to grow internally as well as acquire other firms. Of the respondents 96% foresee internal expansion, while 68% plan to acquire other firms.

TABLE 8

PROBLEMS FACING FIRMS IN ATTAINING GROWTH GOALS

	Frequency of Response [%] Yes	Sometimes	No	Rank
Diminishing opportunities for adequate growth	18	26	56	3
Growing diminishing opportunities for internal growth	38	19	43	1
Difficulties facing financing growth	13	7	80	8*
Organizing and integrating the activities of acquired firms	16	17	67	4
Negative assessment of past new-product development performance	11	14	75	7
Difficulties in coordinating and integrating new product activities	11	19	70	5
Problems of relating R & D to the needs of the market	9	19	72	6
Market analysis and strategic planning	27	28	45	2
Other problems	8	2	90	9

*Associated with "Assets" with a level of significance of Chi-Square equal to 4%.

More of the smaller firms (79%) plan on acquisitions compared to larger firms (57%). This difference is statistically significant with a chi-square test at 0.04 error level. While 54% of the firms expect to use both internal and external growth, only 43% of the large firms will follow this method of growth, compared to 64% of the smaller firms. This relation is significant at the 13% level of error.

Most firms (92%) see their future growth to be from sales of existing products, and to a smaller extent from sales of modified products. Only 48% expect growth from sales of new products and about half of the respondents expect their expansion from acquisitions.

Of the larger firms, 97% foresee growth in existing products, compared to 88% of the smaller firms. Certain industries have higher expectations of new products sales. The services and merchandising industries were in this category. The manufacturing, construction and chemical industries were low-keyed in this area.

When asked about their policy regarding the price-earnings ratios of the firms to be acquired, 65% of the firms said they had no policy, 10% preferred to buy firms with P/E ratio higher than their own, 6% preferred it lower, and 19% said "either higher or lower." Comparing this with the past, it can be seen that the trend is toward a more clearly stated policy on the acquirees' P/E ratios, although the acquirors are not sure whether they should commit themselves to a lower or higher P/E ratio policy.

An interesting change from the past is the expectation of greater involvement of top management in sales growth activities. The responses indicate that in the future top executives will be watching the market development process more closely than they did in the past. They would pay more attention to specifying areas for new products and to a less degree, to product development. Of the low-growth firms, 76% will have their corporate executive officers involved in specifying areas for new products, as compared to 46% of the high-growth firms. Also, 68% of the low-growth firm executives will be involved in specifying areas for product development versus 39% for the high-growth firms.

When asked about the sources expected to be used for financing future acquisitions, most firms expressed a preference for debt over equity financing, following the same pattern of the past. Financing acquisitions from liquid assets or by issuing preferred stock came second. While 29% of the high-growth firms expect to use common stock financing for their acquisitions only 14% of the low-growth firms expect to do so.

CONCLUSIONS

While it is not possible to present any conclusive results here, there are certain major characteristics of Canadian corporate growth that can be mentioned. Firstly, the firms surveyed are some of the most highly motivated in the country. They have grown rapidly in past years and plan on continuing to do so in the future. They have a strong commitment to wealth maximization and expansion while trying to diversity for risk minimization and balance. These motives dictate their growth policies, particularly in relation to acquisitions. Although most of the acquisitions were of a horizontal nature, vertical integration and product and market diversification are becoming increasingly important.

For takeover candidates, the most important selection criteria were related to profitability, growth potential, and synergy factors. The size of acquired firms tended to be small relative to the size of parent firms. A number of intermediaries were usually used in this process, among which specialists like lawyers and accountants were most significant. There was no preferred timing for takeovers. This depended on the firm's internal circumstances rather than on the economic environment. Financing of takeovers was done exactly with debt capital rather than equity. This was specially true for the smaller firms.

To cope with the effects of growth, firms had to change their organizational relations. More autonomy was allowed to divisions, especially in case of the larger acquisitions. Managerial functions are getting more specialized, while top management is focusing its attention on strategic issues related to market growth and change. Sales objectives were generally met with success in the past, although complaints about diminishing growth opportunities are becoming more frequent. Financing growth did not raise a major problem in takeover cases.

For growth in the future, firms are looking at expansion into foreign markets as a new possibility. They plan to increase sales of existing products more than develop new products. A significant means of increasing productive capacity will be carried out through acquisitions. Top management is expected to take more interest in marketing activities than it did in the past. The means of financing takeovers will still be mainly short and long term debt.

APPENDIX

PERCENT GROWTH OF VARIOUS TYPES OF EXPANSION

Industry	Vertical Integration	Horizontal Integration	Product Diversification	National Market Diversification	Intn'l. Market Diversification
1950's:					
Chemicals	50.0	0.0	0.0	0.0	0.0
Manufacturing	0.0	20.5	0.0	0.0	0.0
Services	20.0	32.4	0.0	0.0	0.0
Construction	10.5	15.5	0.0	100.0	0.0
Merchandising	18.9	31.5	0.0	0.0	100.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0
Overall	29.8	63.2	0.0	5.7	1.1
1960's:					
Chemicals	12.5	6.3	9.7	30.8	0.0
Manufacturing	14.0	24.8	21.9	5.8	55.3
Services	9.3	18.0	58.5	0.0	28.9
Construction	11.3	20.4	0.0	51.9	0.0
Merchandising	15.2	30.6	9.7	11.5	15.8
Miscellaneous	37.7	0.0	0.0	0.0	0.0
Overall	29.8	45.4	6.2	12.4	6.3
1970's:					
Chemicals	15.7	15.2	0.0	24.3	0.0
Manufacturing	13.2	21.1	10.2	2.7	56.6
Services	3.3	16.1	65.3	0.0	26.7
Construction	38.8	6.8	24.5	32.4	13.3
Merchandising	9.1	21.1	0.0	40.5	3.3
Miscellaneous	19.8	19.8	0.0	0.0	0.0
Overall	23.9	52.1	9.4	8.3	6.3
1980's:					
Chemicals	35.8	7.5	22.9	21.4	18.5
Services	16.0	21.6	0.0	3.6	27.7
Construction	0.9	14.7	54.1	10.7	15.4
Merchandising	28.3	8.8	16.4	42.9	21.5
Manufacturing	7.5	20.7	6.6	21.4	16.9
Miscellaneous	11.3	26.6	0.0	0.0	0.0
Overall	19.6	50.5	10.3	6.2	13.4

INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS
[Seasonally Adjusted]
1969=100

Indicator	September 1981	August 1981	September 1980
Retail Sales	166.0	158.8	180.2
Electric Sales	199.5	204.5	222.9
Telephones in Service	230.8	230.5	224.7
Gasoline Gallonage	136.0	140.7	130.5
Loans of Savings & Loan Institutions	76.0	71.6	173.0

THE STATE MOTTO

The State motto of Mississippi, **Virtute et Armis**, meaning by valor and arms, was suggested by the Honorable James Rhea Preston, a native of Virginia, who was at the time Superintendent of Education in the State of Mississippi.

Source: **Souvenir of Mississippi**

MEET THE FACULTY

Dr. Kathie Simon Gilbert

Department of Economics

Dr. Gilbert came to Mississippi State in 1968 as an Associate Professor of Economics. During 1979-1980 she worked at Arizona State University in central administrative offices and participated in national seminars and conferences designed to provide training for future academic leaders. Upon her return to Mississippi State, she resumed her position in the Economic Department.

Dr. Gilbert's publication and research interests are in the areas of the role of women in the American economy, federal, state and local finance, and economic education. She is currently working on a project entitled **Taxing & Spending in Mississippi: A Citizen's Primer**. She is also the Editor of **Southeastern Women's Studies Bulletin**, a quarterly newsletter and program update; on the Program Committee of the Southwestern Economic Association, 1981-1982; on the Editorial Board of the **Humboldt Journal of Social Relations** and a reviewer for the **Annuals of the Mid-South Academy of Economists** and **Science** Magazine.

Dr. Gilbert believes teaching economics should prepare business students to become comfortable incorporating economic thinking into their business and personal lives. She is presently an Advisor for General Business Students. Other university activities that she is associated with include: Chairperson, University Taskforce on Retention of Students; and President, Faculty Women's Association. She also serves as a travel consultant for the American Association of University Women.

Dr. Gilbert is a member of the following Professional Organizations: American Economic Association; Southern Economic Association; Southwestern Social Science Association, Finance Committee; Southwestern Economics Association, Program Committee; Mid-South Academy of Economics; National Women's Studies Association; American Association of University Women; Corporate Representative for Mississippi State University; Mississippi Economic Council; and **Who's Who in American Women, Twelfth Edition.**

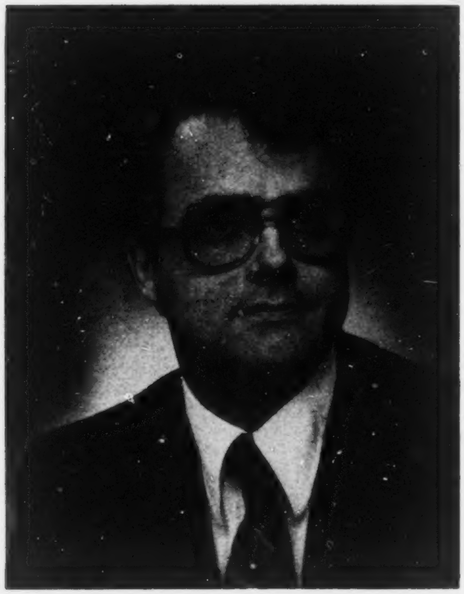
Not only is Dr. Gilbert active in professional activities, she is also active in civic activities which include: Executive Committee, Oktibbeha County Democratic Party, 1976-1980; Mississippians for Educational Television; Starkville League of Women Voters; Starkville PTA; and St. Joseph's Catholic Church, Sunday School Teacher.

Dr. Gilbert is married to John R. Gilbert, Jr. They have two boys, Mark is in the 7th grade and Adam is in the 5th grade in the Starkville Public Schools.

MEET THE FACULTY

Dr. Oris L. Odom, II

Department of Finance



Dr. Oris L. "Buddy" Odom, II, is an Associate Professor of Finance at Mississippi State University. Prior to coming to Mississippi State in 1979 he was on the faculty at Sam Houston State University in Huntsville, Texas for six years. He worked as a real estate broker in Amarillo, Texas, his hometown, and as a tax examiner with the Internal Revenue Service Center in Austin, Texas, before entering the teaching profession.

His Bachelor of Business Administration and Master of Business Administration degrees were earned at The University of Texas at Austin. The Doctor of Business Administration degree, with a major in finance, was earned at The University of Oklahoma.

Service to the College of Business and Industry includes past chairmanship of the College's Library Committee and current chairmanship of its Curriculum Committee. Dr. Odom also serves as an editorial advisor to the **Mississippi Business Review**. He is faculty advisor to the Mississippi State University chapter of the Financial Management Association National Honor Society which he helped establish in the Spring of 1980. He is also active in community service and is currently a director of the Starkville Kiwanis Club.

Dr. Odom holds membership in the Financial Management Association, the Eastern Finance Association, the Southern Finance Association, the Southwest Finance Association, and the Real Estate Educator's Association and frequently participates on the programs of these organizations. Publishing and research efforts have sought to integrate finance theory with real estate practice. He also is a member of Beta Gamma Sigma and Sigma Iota Epsilon national honorary fraternities.

Dr. Odom and his wife, Cynthia, have two children: Allison, four years old; and Travis, one year old. His hobbies include fishing, target shooting, clock collecting, and listening to country music.

NEW AND EXPANDED INDUSTRY

Town	Firm	Product	No. of Employees
NEW			
Brookhaven	**Camm Electronics**	Electronic test equipment	50
Hernando	**APAC Tenn, Inc.**	Asphalt plant	750
Jackson	**Jac-Mac Shirt, Inc.**	Fashion Jeans & Shirts	25
Rosedale	**Fine Vines**	Garment	75
Tupelo	**Ground Mobility Automotive**	Tires	750
EXPANDED			
Blue Mountain	**Benchcraft, Inc.**	Upholsters Furniture	100
Corinth	**Kimberly-Clark**	Polypfophlene-Based Materials	60
Crosby	**Masonite** **(Old Southern Lumber Co.)**	Lumber	25
Houston	**Trace Industries, Inc.**	Cotton & Synthetic Batting	20
Jackson	**Sperry-Vickers**	Hydraulic Pumps & Motors	300
Jackson	**Frito Lay**	Potato Chips - snack foods	100
Meridian	**Ready Mix Concrete**	Concrete	

State Personal Income, Second Quarter 1981

Personal income increased in 48 states and the District of Columbia in the second quarter of 1981, according to the Commerce Department's Bureau of Economic Analysis. Personal income declined in West Virginia and Kentucky because of the coal strike. Personal income in the United States increased 2.1 percent, after an increase of 2.9 percent in the first quarter.

Real personal income in the United States increased moderately in the second quarter, as consumer prices—measured by the implicit price deflator for personal consumption expenditures—increased 1.7 percent (not at an annual rate). The percent change in current-dollar personal income equaled or exceeded the national increase in consumer prices in 34 states.

Real personal income in Mississippi increased 1.7 percent in the second quarter.

Nonfarm Personal Income

Nonfarm personal income increased in all states—except West Virginia and Kentucy—and in the District of Columbia. Nonfarm personal income in the United States increased 2.0 percent. After an increase of 3.0 percent in the first quarter. In 45 states, the percent change in nonfarm personal income in the second quarter was less than in the first quarter.

The five states with the largest percentage increases in nonfarm personal income in the second quarter were Alaska (3.5 percent), Oklahome (3.4 percent), Delaware (3.3 percent), Florida (3.1 percent), and Michigan (3.1 percent). All had large increases in wage and salary disbursements (payrolls) in durables manufacturing, and all except Florida had large increases in payrolls in nondurables manufacturing.

The five states with the smallest percentage changes in nonfarm personal income were West Virginia (down 4.5 percent), Kentucky (down 1.6 percent), Wyoming (up 0.5 percent), Alabama (up 0.5 percent), and New Hampshire (up 0.7 percent). Most had large declines in payrolls in construction and, reflecting the coal strike, in mining.

Nonfarm personal income increased in Mississippi 1.5 percent in the second quarter.

Source: U.S. Department of Commerce **News**, Bureau of Economic Analysis.

STATE ECONOMIC INDICATORS

Indicator	September 1981[1]	August 1981[2]	September 1980[2]	Per Cent Change One Month Ago[3]	Per Cent Change One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	1,019,300	1,003,400	1,037,400	1.6	— 1.7
Non-Ag Employment	824,300	811,300	829,300	1.6	— 0.6
Mining	11,200	11,300	11,000	— 0.9	1.8
Contract Construction	41,500	42,100	45,700	— 1.4	— 9.2
Manufacturing	219,900	219,800	218,800	0.1	0.5
Transportation and Public Utilities	40,500	40,600	41,300	— 0.3	— 1.9
Wholesale and Retail Trade	166,500	166,700	165,100	— 0.1	0.9
Finance, Insurance and Real Estate	33,200	33,300	32,900	— 0.3	0.9
Service	122,900	119,800	120,900	2.6	1.7
Government	188,700	177,700	193,600	6.2	— 2.5
Unemployment Rate (Per Cent Labor Force)	8.3	8.3	7.4	——	——
Average Weekly Earnings in Manufacturing (Dollars)	238.94	237.40	221.60	0.7	7.8
Average Hourly Earnings in Manufacturing (Dollars)	6.08	6.01	5.54	1.2	9.8
Average Weekly Hours in Manufacturing	39.3	39.5	40.0	— 0.5	— 1.8
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,957	2,821	3,025	4.8	— 2.3
Gasoline Delivered to Dealers (gals.)[6]	110,963	119,289	108,410	— 7.0	2.4
Dairy Production					
Milk (lbs.)[7]	64,000	71,000	64,000	— 9.9	0.0
Egg Production (No. eggs)[7]	139,000	138,000	130,000	0.7	6.9
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[8]	12,800	13,700	26,800	— 6.6	—52.2
Construction Loans	1,300	1,200	3,600	8.3	—63.9
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[9]	1,979,735	2,201,272	2,223,106	—10.1	—11.0
Telephones in Service (Number)[10]	1,530,754	1,528,894	1,490,264	0.1	2.7
RETAIL SALES ($000's)[11]	1,417,270	1,396,823	1,305,173	1.5	8.6

Indicator	June 1981	May 1981	June 1980	Per Cent Change One Month Ago	Per Cent Change One Year Ago
AGRICULTURE ($000's)[12]					
Total Cash Receipts from Farm Marketings	139,587	91,537	124,507	52.5	12.1
Cash Receipts from Marketing Livestock	72,866	70,858	74,968	2.8	— 2.8
Cash Receipts from Marketing Crops	66,721	20,679	49,539	222.7	34.7

[1] Preliminary
[2] Revised
[3] Percent change calculated with revised figures; not comparable with previously published data.
[4] Mississippi Employment Security Commission
[5] State Oil and Gas Board for May
[6] Mississippi Motor Vehicle Comptroller
[7] Mississippi Crop and Livestock Reporting Service
[8] Federal Home Loan Bank of Little Rock
[9] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority
[10] South Central Bell Telephone Company
[11] Mississippi Tax Commission
[12] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month September	Month Ago	Year Ago	Current Month September	Month Ago	Year Ago	Current Month September	Month Ago	Year Ago
Aberdeen	—0.4	76.3	8,408	—0.1	3.8	45,721	—6.7	13.5	150,300	80,200	179,100
Baldwyn	7.5	160.7	4,755	0.0	1.8	20,395	4.4	1.1	19,600	——	——
Batesville	——	——	9,272	0.4	6.0	58,978	0.8	22.4	71,500	3,500	130,796
Bay Springs	——	——	——	——	——	21,931	2.9	—1.8	——	——	——
Bay St. Louis	——	——	14,045	0.4	3.9	34,980	—0.2	17.2	——	122,101	446,950
Belmont	——	—0.8	2,405	0.0	5.5	10,402	—10.2	19.5	——	——	——
Belzoni	——	——	5,167	0.2	4.8	28,002	—4.3	3.0	53,300	38,700	10,400
Biloxi	5.4	7.8	46,283	0.2	2.0	316,132	—13.0	23.9	214,740	500,282	1,178,938
Brandon	——	——	11,397	0.1	—3.2	39,919	9.2	43.2	231,100	646,200	3,069,724
Brookhaven	——	——	16,130	0.2	1.0	109,217	—4.9	2.4	601,366	69,000	172,800
Brooksville	——	——	1,297	—0.6	—2.3	2,599	—2.6	4.9	——	——	——
Canton	——	——	11,087	0.0	2.9	64,000	6.1	7.8	——	——	415,518
Carthage	—7.0	—27.5	7,522	0.2	0.9	38,022	—14.0	—0.4	39,650	30,000	78,500
Charleston	——	——	4,253	0.0	2.4	14,898	—25.6	—17.9	——	——	——
Clarksdale	—0.1	32.5	20,787	—0.7	—0.8	113,579	—9.3	0.6	——	——	1,081,200
Cleveland	——	——	14,019	0.6	—1.0	97,868	—2.8	1.9	——	——	——
Collins	——	——	4,700	0.1	1.2	36,454	51.6	0.5	——	——	——
Columbia	——	——	16,236	0.3	2.6	83,532	—2.0	21.5	——	——	——
Columbus	——	——	33,752	—0.6	0.0	228,077	5.7	10.3	689,200	286,838	456,895
Corinth	13.1	20.3	21,171	—0.1	1.7	121,007	11.6	9.0	——	205,385	527,316
Crystal Springs	——	——	5,980	0.1	2.3	22,094	—7.5	6.5	77,000	171,500	47,000
Drew	—14.1	0.3	2,818	0.9	3.1	12,196	11.9	16.7	11,000	10,000	29,000
Edwards	—3.2	88.7	1,737	0.1	3.0	3,678	—7.9	—16.5	70,000	15,000	——
Ellisville	—7.4	13.1	4,104	0.3	2.8	15,816	—1.9	—0.4	——	——	——
Eupora	—3.6	——	4,458	0.0	1.5	16,918	4.2	1.5	——	——	——
Fayette	21.7	10.5	3,366	—0.2	2.5	9,438	1.7	—9.1	——	——	——
Forest	——	——	5,133	—0.1	1.0	50,392	—8.7	10.8	——	161,000	598,000
Greenville	9.7	16.3	37,421	0.0	1.1	248,944	—0.5	7.4	——	——	——
Greenwood	——	——	24,119	—0.6	0.8	150,641	—8.9	10.6	88,790	24,400	519,000
Grenada	——	——	14,421	—0.1	1.1	82,833	—4.1	1.5	490,000	34,000	331,600
Gulfport	——	——	63,256	0.1	2.8	267,707	—1.9	25.8	3,267,687	504,261	2,964,070
Hattiesburg	——	——	61,709	0.2	2.7	344,292	—1.3	7.6	650,699	711,634	5,580,929
Hernando	13.0	—17.4	7,468	0.2	3.0	20,606	—16.5	—5.3	15,300	27,500	672,500
Hollandale	4.4	9.8	3,351	—1.2	—0.8	12,846	—8.4	3.3	16,780	3,000	69 200
Holly Springs	——	——	7,556	0.2	4.1	63,461	40.0	91.2	225,725	199,000	6,000
Houston	——	——	5,736	0.4	1.9	27,481	—2.4	26.3	40,000	94,625	168,500
Indianola	—11.9	—33.0	7,992	0.1	2.4	62,972	—4.4	5.0	——	——	——
Iuka	——	——	5,822	0.2	2.4	29,661	—29.8	9.8	——	——	——
Jackson	——	——	231,776	0.2	2.7	1,444,882	1.8	5.8	3,317,375	3,611,332	4,547,002
Kosciusko	11.6	2.7	9,560	0.2	1.0	62,955	14.0	16.6	3,167	95,800	58,500
Laurel	——	——	36,114	0.5	4.1	361,148	—6.2	22.3	560,518	730,504	608,649
Leland	——	——	5,308	—0.5	2.1	20,104	—6.2	4.8	4,800	63,500	200,000
Lexington	——	——	4,942	0.3	3.4	19,883	—1.5	5.2	——	——	——
Louisville	——	2.2	10,805	0.0	1.1	48,914	—10.8	0.1	71,190	86,231	179,794
Lucedale	——	——	8,636	—0.1	3.4	33,310	—4.9	0.5	——	28,000	45,000
Lumberton	——	——	2,964	0.9	1.1	8,199	—8.3	4.1	——	——	——
Macon	11.0	5.3	3,764	0.1	0.5	14,768	—3.2	—3.3	——	——	——
Magee	——	——	5,522	0.6	4.3	40,783	—4.1	15.7	——	——	——
Magnolia	——	——	4,376	0.0	3.0	9,618	—5.5	—5.3	11,000	7,800	66,300
Marks	—3.9	—32.2	5,526	—0.5	0.3	15,127	—7.3	—2.9	——	——	——
McComb	—5.1	101.1	20,310	0.0	2.4	119,825	—7.0	0.2	335,454	11,520	360,282
Meadville	28.0	—0.5	——	——	——	4,226	—15.6	—18.5	——	——	——
Mendenhall	——	—14.2	6,670	0.5	2.6	17,835	—2.5	—1.5	4,000	1,900	5,500
Meridian	——	——	48,187	—0.5	0.2	391,906	19.7	20.6	453,617	376,385	735,514
Monticello	4.6	—1.9	5,023	—0.3	3.3	19,693	3.1	7.7	34,500	70,350	623,000
Morton	—23.5	—3.1	3,629	0.0	4.4	18,752	11.9	2.7	——	——	——
Moss Point	—0.5	12.2	16,570	0.2	2.4	53,141	11.3	33.6	48,539	2,219,859	475,100
Natchez	——	——	30,558	0.1	2.8	241,218	—0.7	21.3	868,290	605,439	1,402,908
New Albany	—6.6	53.8	11,566	0.1	2.6	56,322	2.2	8.2	138,500	178,000	29,500
Newton	—2.4	—13.4	4,175	0.9	2.8	23,089	—1.3	8.1	——	44,400	115,200
Ocean Springs	——	——	16,184	0.1	2.4	66,281	—4.6	—2.5	——	——	——
Okolona	13.4	21.0	3,501	0.5	2.4	14,945	4.2	17.1	——	——	——
Oxford	——	——	21,778	1.7	0.4	81,400	—1.0	10.8	97,700	66,920	74,580
Pascagoula	——	——	36,744	0.8	5.5	204,831	11.0	7.2	449,553	450,484	669,264
Pass Christian	——	——	5,750	0.6	3.6	10,047	—4.0	—13.3	69,500	162,365	10,420
Philadelphia	——	——	11,908	0.0	3.3	52,170	—6.8	17.0	——	——	——

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month September	Month Ago	Year Ago	Current Month September	Month Ago	Year Ago	Current Month September	Month Ago	Year Ago
Picayune	——	——	16,229	0.1	5.8	81,764	4.0	23.2	416,000	——	195,060
Pontotoc	8.2	24.2	9,608	0.2	2.4	37,841	5.1	6.5	——	——	——
Poplarville	——	——	4,272	0.1	2.8	14,575	−6.1	−0.3	——	——	——
Port Gibson	−3.3	12.2	5,990	0.3	3.9	16,089	0.7	17.2	——	——	——
Prentiss	——	——	——	——	——	21,621	2.3	12.1	——	33,600	150,000
Quitman	−4.5	——	5,037	0.2	2.0	24,076	−19.5	1.1	——	——	——
Raymond	−15.2	−3.0	3,327	2.1	5.0	3,614	−32.1	−46.2	——	——	——
Richton	——	——	1,983	−1.2	−0.6	9,281	1.7	−6.7	——	——	——
Rosedale	——	——	1,587	−1.2	−2.1	7,856	−1.8	8.5	——	——	——
Ruleville	−1.0	5.6	1,930	−0.3	−2.0	10,449	−28.0	−21.0	2,500	16,900	26,250
Sardis	——	——	3,515	−0.1	0.3	17,490	−7.2	5.5	——	——	——
Senatobia	——	——	6,996	0.7	2.7	45,469	10.8	12.5	6,200	27,500	——
Shelby	8.4	4.8	1,630	−0.4	−1.1	8,343	−28.2	−39.3	——	——	——
Starkville	——	——	25,523	0.5	1.5	89,623	−4.3	−3.2	357,500	451,487	711,000
Summit	——	——	1,702	0.1	3.2	11,450	2.6	31.1	——	——	——
Taylorsville	−2.4	1.7	1,775	−1.7	−0.9	11,485	−4.6	26.7	——	——	——
Tchula	——	——	2,020	0.2	−0.7	4,247	−17.1	−6.1	——	——	——
Tunica	——	——	4,277	−0.8	−0.6	15,971	−11.3	−17.5	——	——	——
Tupelo	29.1	6.6	38,427	0.1	2.5	322,439	−9.4	8.5	1,381,298	521,794	2,756,935
Union	——	——	2,872	0.5	4.6	13,807	−19.7	−3.4	——	——	——
Utica	——	——	3,117	−1.0	3.7	9,336	2.5	10.6	——	——	——
Vicksburg	5.3	0.0	39,577	−0.2	1.3	188,684	−6.2	14.4	105,200	178,131	1,803,585
Walnut Grove	——	——	1,062	−0.3	2.1	1,757	−4.6	31.1	——	——	——
Water Valley	——	——	4,271	−0.1	5.9	21,597	−11.3	−5.0	——	——	——
Waynesboro	——	——	7,943	0.3	4.4	68,801	8.4	9.1	174,200	17,000	93,300
West Point	1.2	−6.7	12,620	0.1	2.7	47,117	−11.5	−7.3	——	297,700	191,600
Wiggins	12.1	6.5	6,347	−0.1	0.9	22,901	6.5	15.7	200	——	45,200
Winona	8.3	15.4	5,030	0.2	0.2	31,297	−2.3	2.6	——	18,000	16,300
Yazoo City	6.6	−36.2	12,683	−0.3	2.2	68,178	−3.1	6.8	——	——	——

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON [Hinds and Rankin Counties]	September 1981[1]	August 1981	September 1980	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	150,500	149,900	154,700	0.4	−2.7
Unemployed Persons	9,400	9,400	8,700	0.0	8.1
Per Cent of Labor Force	6.2	6.3	5.6	——	——
Employed Persons	141,100	140,500	146,000	0.4	−3.4
Non-Ag Wage & Salaries	122,000	121,400	126,100	0.5	−3.3
Manufacturing	16,800	17,200	17,500	−2.3	−4.0
TELEPHONES IN SERVICE	251,354	250,914	245,223	0.2	2.5
CITY SALES TAX COLLECTIONS	1,501,429	1,474,355	1,491,860	1.8	0.6

BILOXI-GULFPORT [Hancock, Harrison and Stone Counties]	September 1981[1]	August 1981	September 1980	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	64,310	64,840	64,210	−0.8	0.2
Unemployed Persons	4,180	4,250	3,950	−1.7	5.8
Per Cent of Labor Force	6.5	6.6	6.2	——	——
Employed Persons	60,130	60,590	60,260	−0.8	−0.2
Non-Ag Wage & Salaries	51,330	51,590	51,370	−0.5	−0.1
Manufacturing	8,180	8,500	8,230	−3.8	−0.6
TELEPHONES IN SERVICE	115,289	115,134	112,480	0.1	2.5
CITY SALES TAX COLLECTIONS	593,886	646,822	479,664	−8.2	23.8

[1] Preliminary

Indicated Sales (Retail and Wholesale) By County ($000's)

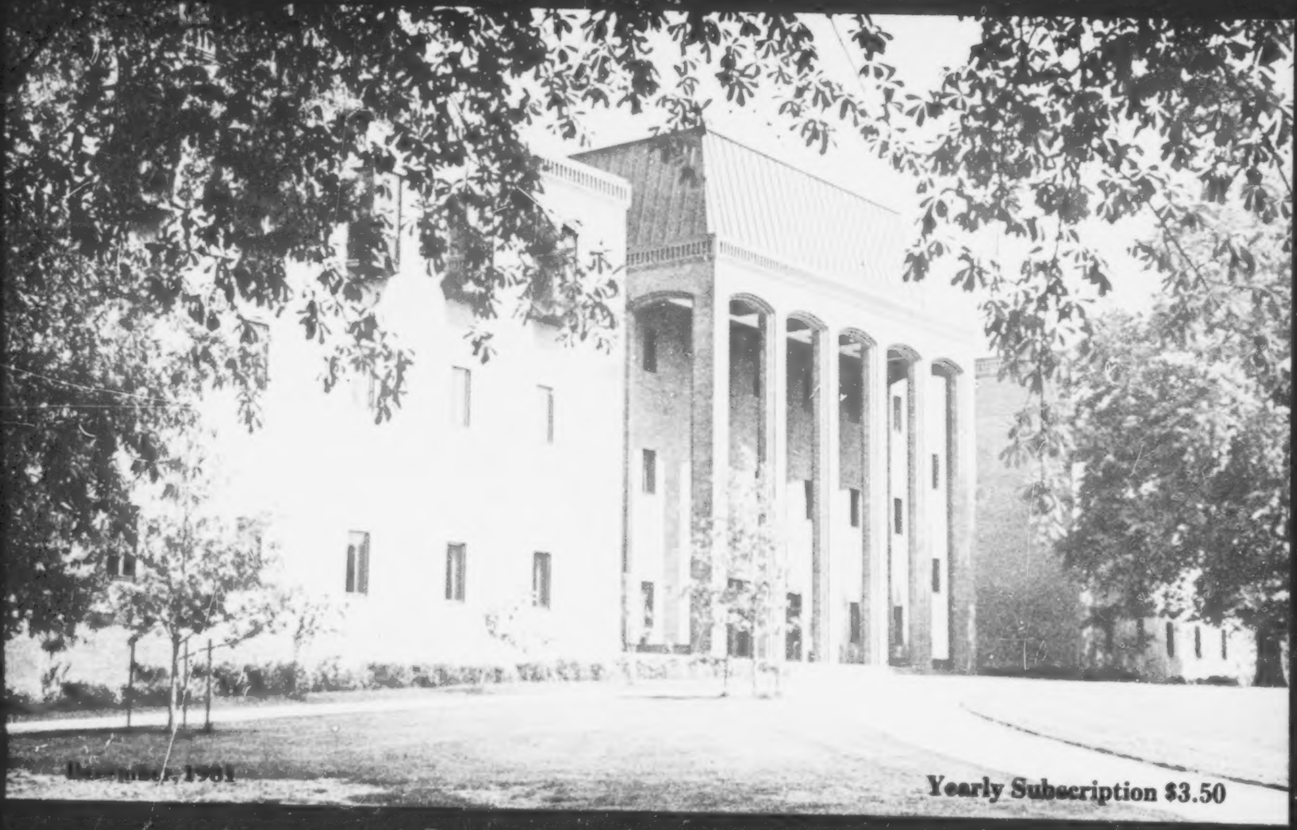
Source: Mississippi State Tax Commision Service Bulletin. Computations by the Division of Business Research, Mississippi State University.

County	1979	% of State	% of Change	1980	% of State	% of Change
Adams	320,702	1.91	10.0	363,236	1.96	13.26
Alcorn	209,558	1.25	10.9	217,715	1.49	32.52
Amite	28,519	0.17	14.4	29,588	0.16	3.75
Attala	103,751	0.62	15.3	108,878	0.59	4.94
Benton	15,286	0.09	32.0	17,860	0.10	16.82
Bolivar	220,160	1.31	11.1	235,460	1.27	6.95
Calhoun	58,113	0.35	12.9	64,091	0.34	10.29
Carroll	21,375	0.13	6.2	27,222	0.15	27.35
Chickasaw	75,588	0.45	7.7	75,603	0.41	0.02
Choctaw	22,251	0.13	18.5	25,607	0.14	15.08
Claiborne	113,694	0.68	−31.7	289,939	1.56	155.02
Clarke	53,218	0.32	2.0	56,956	0.31	7.02
Clay	107,272	0.64	10.7	111,099	0.60	3.57
Coahoma	210,024	1.25	6.5	221,963	1.19	5.68
Copiah	107,576	0.64	16.6	108,185	0.58	0.57
Covington	96,704	0.58	5.2	130,208	0.70	34.65
DeSoto	176,585	1.05	21.6	210,939	1.14	19.45
Forrest	639,479	3.82	18.4	684,943	3.69	7.11
Franklin	21,342	0.13	− 5.0	22,255	0.12	4.28
George	51,575	0.31	10.1	62,945	0.34	22.05
Greene	19,574	0.12	5.2	22,548	0.12	15.19
Grenada	153,643	0.92	16.9	158,049	0.85	2.87
Hancock	102,166	0.61	19.0	122,182	0.66	19.59
Harrison	997,653	5.95	13.1	1,064,951	5.73	6.75
Hinds	2,904,777	17.34	15.0	3,056,701	16.45	5.23
Holmes	75,629	0.45	9.7	85,327	0.46	12.82
Humphreys	57,289	0.34	7.8	71,573	0.39	24.93
Issaquena	4,466	0.03	−35.0	7,143	0.04	59.94
Itawamba	65,865	0.39	19.3	73,975	0.40	12.31
Jackson	548,866	3.28	− 0.4	656,558	3.53	19.62
Jasper	64,075	0.38	20.6	77,484	0.42	20.93
Jefferson	20,545	0.12	13.8	22,321	0.12	− 7.96
Jeff Davis	46,799	0.28	17.9	57,182	0.31	22.19
Jones	487,823	2.91	− 5.9	563,219	3.03	15.46
Kemper	22,230	0.13	3.7	27,933	0.15	25.65
Lafayette	123,464	0.74	13.3	139,469	0.75	12.96
Lamar	78,661	0.47	−13.0	70,505	0.38	−10.37
Lauderdale	631,328	3.77	7.2	693,997	3.74	9.93
Lawrence	41,191	0.25	16.3	46,143	0.25	12.02
Leake	69,106	0.41	11.2	75,070	0.40	8.63
Lee	720,109	4.30	17.6	778,003	4.19	8.04
Leflore	[illegible]9,825	1.[illegible]	17.[illegible]	312,0[illegible]	1.68	7.66
Lin[illegible]	[illegible]7,582	[illegible]2	[illegible]	20[illegible]	1.[illegible]	11.1[illegible]

County	1979	% of State	% of Change	1980	% of State	% of Change
Lowndes	402,611	2.40	9.8	426,643	2.30	5.97
Madison	211,498	1.26	17.7	253,885	1.37	20.04
Marion	152,169	6.91	25.0	183,942	0.99	20.88
Marshall	87,314	0.52	19.4	88,563	0.48	1.43
Monroe	213,590	1.27	23.8	235,871	1.27	10.43
Montgomery	57,472	0.34	12.0	62,796	0.34	9.26
Neshoba	110,913	0.66	24.9	113,060	0.61	1.94
Newton	72,600	0.43	12.4	80,575	0.43	10.98
Noxubee	51,229	0.31	6.9	52,015	0.28	1.53
Oktibbeha	159,854	0.95	12.6	171,453	0.92	7.26
Panola	139,198	0.83	15.4	158,664	0.86	13.98
Pearl River	136,476	0.81	18.2	144,966	0.78	6.22
Perry	40,227	0.24	24.2	31,608	0.17	21.43
Pike	248,278	1.48	18.0	260,415	1.40	4.89
Pontotoc	71,693	0.43	13.6	70,982	0.38	− 0.99
Prentiss	106,363	0.63	14.8	107,265	0.58	0.85
Quitman	42,945	0.26	− 2.3	46,541	0.25	8.37
Rankin	442,618	2.64	19.5	524,781	2.82	18.56
Scott	120,193	0.72	18.6	137,045	0.74	14.02
Sharkey	35,787	0.21	3.9	42,238	0.23	18.05
Simpson	102,883	0.61	16.0	119,589	0.64	16.24
Smith	38,399	0.23	4.4	41,580	0.22	8.28
Stone	40,971	0.24	16.1	47,410	0.26	15.72
Sunflower	266,338	1.60	11.5	303,513	1.63	13.96
Tallahatchie	54,844	0.33	9.6	62,527	0.34	14.01
Tate	76,210	0.45	10.5	81,406	0.44	6.82
Tippah	100,982	0.60	6.1	115,657	0.62	14.53
Tishomingo	128,065	0.76	38.3	185,751	1.00	45.04
Tunica	41,052	0.24	14.1	46,102	0.25	12.30
Union	95,268	0.57	15.7	100,545	0.54	5.54
Walthall	52,702	0.31	17.6	58,473	0.31	10.95
Warren	373,036	2.23	20.3	396,856	2.14	6.39
Washington	513,604	3.07	20.5	511,211	2.75	− 0.47
Wayne	92,276	0.55	8.1	110,719	0.60	19.99
Webster	42,066	0.25	16.2	40,424	0.22	− 3.90
Wilkinson	47,161	0.28	22.7	48,384	0.26	2.59
Winston	87,266	0.52	11.9	95,018	0.51	8.88
Yalobusha	46,613	0.28	15.8	48,966	0.26	5.05
Yazoo	195,463	11.70	6.7	225,651	1.21	15.44
Othe[illegible]	[illegible]1,095,76[illegible]	6.54	[illegible]24.4	1,[illegible]0,815	[illegible]4	12.[illegible]2
St[illegible] Tota[illegible]	16,75[illegible]		9.7	[illegible]79,49[illegible]		[illegible]88

U 3255-2

MISSISSIPPI
BUSINESS REVIEW



December, 1981

Yearly Subscription $3.50

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

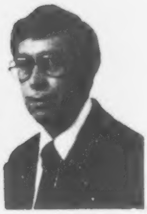
POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Return Postage Guaranteed

Second Class Postage Paid at
Mississippi State, Mississippi 39762

BEST AVAILABLE COPY

Dr. Denzil Y. Causey, Jr.



Dr. Billy M. Bagwell

Dr. Denzil Causey is Professor of Accounting at Mississippi State University. Dr. Causey received his D.B.A. from the University of Southern California and his J.D. from Emory University. He is a Tennessee CPA and member of the Florida and Georgia bars.

Dr. Billy Bagwell is an Associate Professor of Business Statistics and Data Processing at Mississippi State University. He received his B.B.A., M.B.A., and Ph.D. from the University of Mississippi.

TABLE OF CONTENTS

Avoiding Malpractice Problems in Public Accounting Practice 3
Indexes of Selected Mississippi Economic Indicators 7
A Preliminary Analysis of the Socio-Economic Impact of Rail Abandonments Within the State of Mississippi 8
New and Expanded Industry 10
Tourist Briefs: Arlington 11
Foreign Exchange Rates Between the United States and Selected Foreign Currencies, 1978-1980 and March-September, 1981 12
Federal Budget Receipts By Source and Outlays by Function 13
Mississippi Statistical Abstract 14
Meet the Faculty: Dr. J. Larry Hagler 15
Dr. Donald P. Robin 16
State Economic Indicators 17
Business Activity By City 18
SMSA 19

VOLUME XLIII DECEMBER, 1981 NUMBER 6

James D. McComas, Ph.D.
President, Mississippi State University
Gaines M. Rogers, Ph.D.
Dean, College of Business and Industry
Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing
Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics

Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics

Louis M. Capella, D.B.A.
Editorial Advisor

Orris L. Odom, II, Ph.D.
Editorial Advisor
Gary A. Williams, D.B.A.
Editorial Advisor
Donna M. Reddish
Assistant Editor
Dale Adams
Secretary
Diane Dendy
Secretary

Sadia Al-Jibouri, M.B.A.
Research Assistant

Guy Patterson, B.S.
Research Assistant

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

Avoiding Malpractice Problems in Public Accounting Practice

by

Denzil Y. Causey, Jr.

This article is reprinted from the September, 1981, issue of the **Connecticut CPA**, *Volume 45, Number 1. Research for it was partially funded by the Division of Business Research at Mississippi State University during the Summer, 1981.*

The purpose of this article is to focus attention on practical ways to avoid the disputes and malpractice problems that threaten every public accounting practice. This includes structuring the engagement, malpractice insurance, careful evaluation of sensitive disclosure problems as well as good claims management practices.

Evaluating Risks and Structuring the Engagement

High Risk Situations

Malpractice risks vary with the type of engagement. Tax practice involves the highest incidence of malpractice, however the largest dollar exposure occurs when performing an audit for a client raising capital. CPAs should be aware of the increased risk associated with these engagements:

1. sale price for a business determined by audited earnings or book values.
2. preparation of financial statements, tax opinion letters, or tax returns for the limited partnership client, and
3. raising capital for a new business involving use of appraisal values on the balance sheet.

Buy/Sell Situations.—Whenever money is to change hands based on audited income or book value, negligence by the CPA is likely to result in liability. This same negligence might otherwise result in no liability. Clients should be encouraged to use audited financials as a starting point for negotiating price with reliance also placed on other professionals such as appraisers, independent inventory taking teams, and lawyers. It will usually be difficult to spell out all the accounting estimates and alternatives in the agreement between the parties, however the CPA might consider representation letters from the parties indicating an understanding of the major accounting policies that will be applied.

PROBLEMS IN THE BUY/SELL SITUATION

Franklin Supply v. Tolman, 454 F.2d 1059 (9th Cir. 1972) (applying Colorado and Venezuela law). The buyer sued the auditor claiming an improper application of lower of cost or market to inventories.

Ryan v. Kanne, 170 N.W.2d 395 (Iowa 1969). The CPA was sued by the newly formed corporation when accounts payable proved more than reflected in the unaudited balance sheet. An attorney handling the asset transfer under the bulk sales law could have eliminated this problem.

Limited Partnerships. — Limited partnership clients involve special hazards for malpractice. The CPA preparing financials should be aware of the necessity for a full disclosure to limited partners of any breach by the general partners. Any breach by the general partner may affect the closing of profit and loss and/or capital balances of the parties.

CPAs associated with limited partnerships that are raising capital face these potential malpractice problems:

1. The CPA may be accused of having advised as to the flowthrough of disallowed tax shelter benefits while the CPA's understanding of the engagement is limited to preparing financials and/or tax returns,
2. Limited partnership interests are securities and the failure to register them under state or federal law may result in the CPA being liable as one abiding and abetting the sale,
3. Taking commissions on the sale of limited partnership interests is a violation of AICPA ethics rules even if it is disclosed. It is a violation of legal duties as a fiduciary unless there is a full disclosure to the client.

HAZARDS OF LIMITED PARTNERSHIP CLIENTS

White v. Guarante, 372 N.E.2d 315 (N.Y. App. 1977). The CPA was accused of failure to disclose that the general partners backdated their withdrawal of capital so as to avoid their share of losses. If true, the allegations would involve the computation of capital balances.

Five cases have involved the sale of tax-sheltered investments: 1. **Sharp v. Coopers & Lybrand**, 649 F.2d 175 (3d Cir. 1981). The court held the accounting firm liable under section 10(b) of the Securities Exchange Act of 1934 for writing a reckless tax opinion letter used in selling limited partnerships.
2. **Vogel v. Trahan**, CCH Fed. Sec. L. Reports 97,303 (E.D. Pa. 1980). The court held that the accounting firm that prepared the financial statements in the offering circular for the limited partnership interests as well as the accounting firm that advised as to flow-through of tax deductions could be sued as aider-abettor under section 12(2) of the Securities Act of 1933.
3. **Sandusky Land, Ltd. v. Uniplan Groups, Inc.**, 400 F. Supp. 440 (N.D. Ohio 1975). The court refused to dismiss a suit under section 12(2) of the Securities Act that alleged that the accounting firm was negligent in advising as to the flow-through of tax benefits.
4. **Hild v. Woodcrest Association**, 391 N.E.2d 1047 (Ohio Common Pleas 1977). The court held the accounting firm that prepared financial projections liable to limited partners for aiding and abetting the sale of securities that should have been registered under the state securities law.
5. **Midland National Bank of Minneapolis v. Perranoski**, 299 N.W.2d 404 (Minn. 1980). A CPA who promoted the sale of a partnership tax shelter was held not liable for losses; he could not have foreseen the fall in cattle prices that caused the losses.

According to AICPA ethics rules, CPAs cannot accept a commission on the sale of limited partnership interests to clients regardless of disclosure and client consent. See the April, 1981 **Journal of Accountancy** at page 20.

Appraisal Values.—CPAs should generally avoid the situation where promoters plan to entice new investors with a balance sheet based on appraisal of contributed property. Where there is no operating data relating to contributed property, appraisal values are too speculative for use in preparing financial statements. For example, lenders generally accept producing oil wells as collateral for a loan while rejecting nonproducing properties.

CRIMINAL CONVICTION OF CPAS USING APPRAISAL VALUES

United States v. Bruce, 488 F.2d 1224 (5th Cir. 1973). A Florida CPA, who used appraisal values, was convicted on two counts of fraud and sentenced to concurrent terms of two years of which six months had to be spent in a penal institution. This scheme involved excessive values for "incorporation services" and valuation of land prior to subdivision at post-development prices.

United States v. Benjamin, 328 F.2d 854 (2d Cir. 1964). The CPA who issued an auditor's report commenting on appraisal values and a "pro forma" balance sheet which included unrecovered development costs and assets not yet acquired was convicted of conspiring to defraud.

Evaluating the Suit for the Fee

Whenever the CPA sues for the fee, a client counterclaim for deficient work is a likely defensive measure. While this should not necessarily rule out the suit, the CPA should evaluate the exposure involved in a potential counterclaim. Plaintiff CPAs are required to produce relevant working papers for inspection or copying and to submit to questioning under oath before a court reporter. A counterclaim is a malpractice suit and must be reported to the malpractice insurance carrier or else coverage may be lost because of violation of notice requirements in the policy. CPAs should consider whether the legal expenses and loss of billable time will be worth the potential recovery. Small CPA firms cannot afford to lose the time required by the case that goes to trial.

SUITS AGAINST CLIENTS PRESENT A MIXED BAG OF DISASTER AND SUCCESS

Ryan v. Kanne, 170 N.W.2d 395 (Iowa 1969). The CPA recovered a fee of over $3,000 despite an estimated fee of only $500 to $750. However, the CPA was held liable on the counterclaim for over $20,000 based on understatement of accounts payable on the investor-acquired business.

Gladding v. Langrall, Muir & Noppinger, 401 A.2d 662 (Md. App. 1979). The CPAs recovered over $40,000 on a contingent fee for resolving an IRS tax assessment despite the logging of only 17 hours of work.

Jorge v. Rosen, 208 So. 2d 244 (Fla. App. 1968). A CPA recovered a contingent fee for processing a claim for refund where the fee was based on both the amount refunded and the amount saved by carry forward to future years.

Engagement Letters

It is advantageous to cover every situation with an engagement letter setting forth the basis upon which the fee will be determined. If there is no engagement letter, courts hold that the CPA is entitled to the fee charged by persons of similar standing for the same services; however, this introduces some latitude as to the amount properly chargeable. Many CPAs are now including and enforcing a provision for interest on past due balances.

It is much easier to collect on a note than on an account. The note acknowledges the amount of the debt and provides for interest as well as payment of costs of collection including attorney's fees. For this reason some CPAs provide in the engagement letter that clients will sign a note when fee balances become past due.

Where the CPA is submitting a bid on a fixed fee basis it is important to make the fixed fee subject to adjustment if the records are not in condition for audit or weakness in controls require an extension of audit procedures.

While clauses excusing all future negligence are against public policy, reasonable limitations of liability may be acceptable to the courts. CPAs performing management advisory services might want to consider limiting liability to the amount of the fee received. Another possible clause involves limiting "compilations" to internal use. This should eliminate "negligence" liability to third parties because no third party uses would be foreseeable.

LIABILITY TO THIRD PARTIES FOR ERRONEOUS BOOKKEEPING

Bonhiver v. Graff, 248 N.W.2d 291 (Minn. 1976). The CPA was held liable for **negligence** to a third party general agent because the CPA could foresee reliance by virtue of inspection by the commissioner of insurance. The CPA was engaged in bringing the client's books up to date and never prepared a financial statement. However, unraveling the true economic substance of transactions would have revealed the fraud. The lessons are twofold:

1. When doing the bookkeeping be sure you understand the economic substance and avoid use of suspense accounts on financial statements or published schedules, and
2. Where work is not adequately checked for third party reliance, restrict it to internal use.

Malpractice Insurance

Rates, Limits, and Deductible

Several of the "Big Eight" accounting firms are insured with Lloyds of London and rates may vary depending upon one's loss experience. Rates for smaller firms usually depend upon the loss experience for all firms in the insured group as opposed to loss experience of the particular firm. Rates are generally quoted as an amount per professional person affiliated with the firm so that a firm with four professionals pays twice as much as a firm with two professionals. Rates vary directly with the amount of the limits and inversely with the amount of the deductible.

In evaluating limits it is important to consider that liability could extend to the amount an investor might put into a client in reliance upon the CPA's audited financials. In one case an investor put over $2 million into a firm having a negative book value. In order for a firm doing audit work to be fully insured, it is necessary to carry $1 million of coverage per professional up to $10 million. Some national firms have deductibles of several million.

Types of Coverage

Malpractice insurance coverage is of two types:

1. discovery (also called "claims made") coverage which covers all claims reported to the carrier in the policy period regardless of when the malpractice occurred, and
2. occurrence coverage which covers all malpractice that takes place within the policy period regardless of when it is discovered.

The current trend is for carriers to write discovery coverage to provide more certainty by shortening the "tail" that results from claims in later years following an occurrence policy. Discovery coverage has eliminated much of the need for guesswork in establishing reserves for incurred but unreported claims and has generally lowered premiums.

CPAs should avoid discovery coverage followed by occurrence coverage since this will leave an uninsured gap for occurrences during the discovery policy reported after switching to occurrence coverage. CPAs should also consider the total loss of coverage that occurs when discovery coverage is dropped upon a sole practitioner retiring from practice. Some firms offer a non-practicing policy to afford protection after retirement for errors or omissions occurring prior to retirement.

CHANGE FROM DISCOVERY TO OCCURRENCE COVERAGE LEAVES AN UNINSURED GAP

Gereboff v. Home Indemnity Co., 383 A.2d 1024 (R.I. 1978). The CPAs sued the three different insurance carriers that had consecutively provided coverage over a period of years. The court held that none of the three consecutive policies covered the malpractice claim because the claim occurred when a discovery type policy was in force and was discovered when there was an occurrence type limitation in the policy.

Exclusions

All malpractice policies have an affirmative dishonesty clause which results in exclusion of coverage for theft of client funds or for defense of criminal charges. The important consideration here is that better policies do undertake to insure innocent partners against liability for a dishonest partner. For example here is this clause in one of the better policies:

> provided that such affirmative dishonesty or actual intent shall not invalidate the insurance afforded hereunder to any other insured unless committed jointly by or with the knowledge or consent of such other insured.

Carrier's Duties

The carrier has a duty to defend claims and under the better policies the cost of defense is not chargeable against the policy limits nor subject to the deductible. If the carrier fails to conduct an adequate investigation and fails to attempt settlement of cases of clear liability within the policy limits, it may be liable for a verdict in excess of policy limits. This is especially true if it rejects the recommendation of its own counsel.

The courts hold that a duty of good faith on behalf of the carrier is implicit in every policy of insurance. Where the carrier undertakes to defend a claim without reserving the right to contest coverage, it is generally liable for any judgment entered in the case. Where the carrier defends while reserving the right to contest coverage later, the insured may have the right to select counsel to be paid at the carrier's expense because of the potential conflict of interest between the carrier and the insured.

MALPRACTICE INSURANCE PROBLEMS RESULT IN LITIGATION FOR ACCOUNTING FIRMS

Duke v. Hoch, 468 F.2d 973 (5th Cir. 1972). The malpractice policy did not cover two innocent CPAs for affirmative dishonesty of their partner who embezzled $40,000 of client funds.

Berylson v. American Surety Co. of New York, 220 N.Y.S. 2d 532 (Sup. Ct. N.Y. Cty. 1961). The malpractice insurance policy was held not to apply to defending a criminal indictment in federal court that charged wilfully filing a false income tax return.

St. Paul Fire & Marine Ins. Co. v. Clarence-Rainess & Co., 355 N.Y.S.2d 169 (Sup. Ct. 1972), **aff'd without opinion**, 340 N.Y.S. 2d 587 (App. Div, 1973). The court held that where the suit contained some counts within the coverage of the policy and some for affirmative dishonesty outside the coverage, the carrier was required to defend the whole action. Since the carrier had failed to defend, it was required to reimburse the accounting firm for undertaking its own defense.

Rimar v. Continental Cas. Co., 376 N.Y.S.2d 309 (N.Y. App. Div. 1975). The court held that where the carrier reserves the right to contest the coverage, the accounting firm can select its own counsel and the carrier is required to pay the bill.

St. Paul Fire & Marine Ins. Co. v. Weiner, 606 F.2d 864 (9th Cir. 1979). The court held that where there was a conflict of interest between the accounting defendants because they each claimed the other was at fault, the carrier was required to supply each of them with separate counsel.

Sensitive Disclosure Problems

Malpractice liability often results from the CPA's failure to require a full disclosure of sensitive transactions. One problem that frequently arises is the loan to the officer, director, or stockholder. In some states this is a violation of the state corporation code. Loans to directors must always be approved by a disinterested majority of the board. Where the loan is in the form of a demand note, there may be a valuation problem if the loan has been outstanding for more than a year. Full footnote disclosure of the name of the debtor and all relevant facts is required under the rules for reporting relating party transactions (AU § 335).

Client violations of agreements with lenders or agency agreements with principals may result in either existing or contingent liabilities. Continuing to serve as the CPA without requiring disclosure has resulted in liability for aiding and assisting fraud by the client.

CPAS ARE HELD LIABLE FOR FAILURE TO DISCLOSE CLIENT CONTRACT BREACHES

United States National Bank of Oregon v. Fought, 612 P.2d 754 (Ore. App. 1980). A lender bank required the CPA's jeweler client to deposit all receipts in a collateral bank account with financial statements and lists of checks for the bank's approval to be submitted by the CPA. The CPA knew but failed to disclose that the client was diverting receipts. The court held the CPA liable for the $105,706.67 which he knew the client failed to deposit.

Merit Insurance v. Colao, 603 F.2d 654 (7th Cir. 1979). The CPA had to go to civil trial on a fraud theory for failure to disclose that the insurance agent client was keeping two sets of books and was not accounting for all premiums collected.

Claims Management

Malpractice policies require immediate notice to the insurance carrier upon receipt of any information of any occurrence that may give rise to a claim. Failure to give notice may result in no insurance coverage. However, any discussion and notice of a potential claim should be kept strictly confidential or the discussion may result in generating the claim.

Worry over claims should not prevent withdrawing an audit opinion (under AU § 561) when it is discovered that facts existing at the date of the report make it unreliable. CPAs do not guarantee audited financials. In order to recover, plaintiffs must prove that failure to apply the **usual** procedures caused a specific loss. The greater concern is the charge that, after learning the facts, the CPA remained silent or even participated in a cover-up. Covering up past errors can lead to criminal as well as civil liability.

Sometimes it is best to admit liability to minimize the loss. One CPA recounts taking the blame for an error that caused a $2,000 IRS assessment. He paid the assessment, retained his good client, and upon learning of the incident the malpractice carrier reimbursed the CPA. Better practice would be to get the carrier's consent before accepting responsibility.

The advantage of quick resolution of disputes of clear liability is that damages are held to a minimum. If the client employs other attorneys or accountants to dispose of a problem created by negligence of the CPA, the CPA may be liable for these fees as well as the losses that have occurred.

Summary and Conclusion

Malpractice problems should be accepted as an inherent part of a competently conducted practice. Since we all make errors, problems are bound to arise. However, the practice should be conducted so as to minimize the likelihood of claims. When problems do arise, good malpractice insurance and claims management practices can greatly minimize their impact.

INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS
(Seasonally Adjusted)
1969=100

Indicator	October 1981	October 1980	September 1981
Retail Sales	144.8	166.0	178.7
Electric Sales	203.3	199.5	206.8
Telephones in Service	231.2	230.8	225.9
Gasoline Gallonage	146.4	136.0	141.5
Loans of Savings & Loan Institutions	74.7	76.0	218.0

A Preliminary Analysis of the Socio-Economic Impact of Rail Abandonments Within the State of Mississippi

by

Billy M. Bagwell, Ph.D.

This article was partially funded by the Division of Business Research at Mississippi State University during the Summer, 1981.

INTRODUCTION

Transportation—the means of conveying goods and/or services from one location to another, takes on different connations given the audience. In reviewing the literature, one finds that transportation has played a significant role in the economic development of the United States. Early accounts of the development of western lands show that as settlers moved westward via horse and wagon that little economic growth occurred; however, as rail lines were extended the settling of the lands and the economic growth escalated at a geometric rate. From a slightly biased viewpoint, many historians would attribute this rapid development to the advent of rail systems being extended.

However, with the growth of rail systems in the late 1800 and early 1900's, one can also see that duplicate rail systems (or parallel lines) were built. This redundancy led to cut-throat competition between rail barons where there were competing lines, and monopolistic pricing where there were no competing lines. As an end result, Congress enacted legislation to curb these abuses and to attempt to bring order into the market place. This legislation provided needed policies and regulatory action to help the rail industry achieve some semblance of stability; and in most cases, a satisfactory profit.

The early regulatory actions by the resulting Interstate Commerce Commission provided the needed leadership in protecting the fledgling railroads and the public interest. However, as public policies shifted to other modes of transportation (namely, our highway system), the regulatory policies did not keep pace with industrial, technological, and consumer attitudes and changes. As a result, rail lines gradually deteriorated with profit margins becoming dismally small if not non-existent.

Given the philosophical shift to highways, the outlook for the rail industry attempted to attract new investment by introducing new equipment specially designed for particular types of cargo; i.e., piggyback trailers, hydro-cushion boxcars, pole flats, etc., and to reduce expenditures on maintenance in order to improve their profitability. As is the case so often, this innovation was too little too late; and, in the case of reduced preventive maintenance, it was a postponement of reality.

As a result of the poor financial position of most rail companies, Congress enacted the Railroad Revitalization and Regulatory Act in 1976 (commonly referred to as the 4-R Act). This new legislation had as its intent to reduce the degree of regulatory control by the ICC and also provided a mechanism for railroad companies to discontinue marginal feeder lines. (In the past, the ICC had rules that a railroad had to continue service over nonprofitable lines as a public service.) This Act also deemphasized the importance of public service and made the key issue(s) in determining the feasibility of retaining a line that of whether or not the line was profitable or would continue to be a profitable segment in the future.

Given this change in abandonment criteria, many railroad companies began to look at their total operations and to isolate segments of their system which were not profitable or needed review in order to determine the relative profitability in the future. One of the key issues in future profitability of feeder lines was that of needed track and bridge maintenance. As a result, most railroads were able to identify segments of their operations (in most cases, feeder lines) which should be abandoned immediately or should be listed for eventual abandonment.

With abandonment of non-profitable lines relatively easy, the resulting notice of intent to abandon has created a new awareness of the relative importance of rail facilities (or the availability) for economic development and continued economic stability within the affected communities. As such, this new awareness and growing concern of small communities in Mississippi is the focus of this research. In addition, this research proposes to delineate a methodology to isolate or identify the rail lines which should be maintained under the provisions of the 4-R Act.

METHODOLOGY

Given that on any proposed abandonment, segment or total line, there are provisions wherein the proposed abandonment can be alleviated by (1) subsiding the carrier to provide a prescribed level of service, (2) negotiating acquisition of the segment or line by other carriers or parties, or, (3) the state or local authority assuming operation of the proposed line. These alternatives gives the local communities an opportunity to insure continued service; however, they also provide an impetus to political manuevers. The methodology that is designed to ascertain the relative importance of each segment or line under study for abandonment, will have to only consider (initially) the economic factors. After the initial priorities are developed, then the socio-demographic factors can be used to assure that the ranking is relative to the overall economic development plan for the State.

A primary problem inherent in developing a model to measure economic impact is the lack of data in a suitable form for a specific area. That is, most statistical data is collected for geographical areas larger than the targeted or isolated community. In most cases, the statistical data available includes the individual community with other communities, which prevents the isolation of data for the individual unit. When the investigator studies this data, it tends to bias the results in that he is working with an aggregate value rather than data for the affected communities. As such, this discrepancy in data requires that the assumption be made that the statistical data for the individual area is represented by the aggregate.

Another statistical data problem encountered is that of data collected for time periods that are not compatible. For example, data needs for developing socio-economic impact needs to be in monthly form; whereas, most of the statistical data gathered is on a yearly basis. As an illustration, income levels within counties, age distributions, work force levels are primarily gathered on a yearly basis. In order to determine a multiplier one needs monthly data so that effects can be isolated as one reviews the fluctuation in transportation (rail shipments).

In analyzing the local communities within the study area, it became apparent that the primary rail users were associated with pulpwood (forest products). Wood yards are located at Maben, Gibbons (Mathiston), and Ackerman. An interesting feature noted is that the pulpwood is harvested by individuals that function as small businessmen. They own their own equipment (usually marginally efficient), contract with land owners to cut (paying the land owner a stumpage fee), and receive payment upon delivery to the wood yard. Very few of these operators use credit. In essence they pay cash for their supplies and day-to-day operating needs. The revenues generated by the pulpwood activities are, in most cases, spent immediately in the local community. As a result of this, the pulpwood activity has a strong economic impact on the local community.

In developing the models that one will need to determine the socio-economic impact of transportation modes on a local community the following variables will have to be used:

1. Rail cars shipped from each station
2. Revenues generated (value of shipment)
3. Wages paid to employees in industries associated with rail shipments
4. Expenditures for
   a. durable goods
   b. non-durable goods
   c. services
5. Bank deposits

It is hypothesized that sales tax collections would be an effective index to use to measure the economic impact. The rationale is that as transportation activities increase, local income will increase, therein increasing sales tax collections. If the ratio of change can be isolated, then forecasts as to the net effect of discontinuance of any mode of transportation can be made.

From the basic model described, other demographic information can be analyzed to determine expected changes in the local community for the next three to five years. That is, if the age distribution for a local county indicate that the population is aging, then it is a fairly safe assumption to say that economic growth will slow down due to the lack of available manpower in future years. Other factors that should be included in this analysis are:

1. Population by age groups
2. Work force levels by SIC grouping
3. Median income levels (or income distribution)
4. Manufacturing firms presently located in area (assumption - growth begats growth)
5. Retail sales by categories
6. Wage and salary by employment groups

From this composite, the priority index can be developed for all communities involved in discontinuance of rail transportation.

SUMMARY

The relative importance of transportation in the economic development of Mississippi is immeasurable. We know of its importance; yet, we have not found adequate means to measure this effect. The proposed usage of regression and correlation analysis and input-output models will aid in developing such an instrument.

With our limited resources, an overall model should be developed which will aid in planning the transportation needs of the State so that all sectors can benefit, rather than using the purely political methods. From such an effort, i.e., a model, each geographic area can be examined, a determination made as to the relative effect of discontinuance of rail service, and all areas ranked according to their impact.

This analysis could be extended to include all modes of transportation. In actuality, the total transportation system within the State of Mississippi needs to be examined to ascertain that each geographic area has adequate transportation, whether it is rail, barge, or truck.

It is recommended as a result of this preliminary investigation that a task research group within the College of Business and Industry be organized to extend this and to develop this priority index model.

Correction

In the November, 1981, issue the number of employees was published incorrectly for three new industries. Below are the correct numbers of employees.

NEW	
Brookhaven **Camm Electronics** Electronic test equipment	12
Hernando **APAC Tenn, Inc.** Asphalt plant	45
Rosedale **Fine Vines** Garment	60

NEW AND EXPANDED INDUSTRY

Town Firm Product	No. of Employees
NEW	
Rienzi **Maylor Industries, Inc.** Living Room Furniture	90
Smithville **Penthouse, Inc.** Upholstered Furniture	80
EXPANDED	
Aberdeen **Aberdeen Manufacturing, Inc.** Men's Shirts	50
Louisville **Hamill Manufacturing Company** Seat Belts	350
New Albany **Piper Industries, Inc.** Impact Extrusions	25
Thomastown **Thomastown Chair Works** Wood Furniture	35
Booneville **Prentiss Manufacturing Company** Shirts	60

Tourist Briefs

Arlington

NATCHEZ, MISSISSIPPI

One of the most architecturally finished of the Natchez mansions, Arlington is situated on 75 acres which include some of the oldest and finest shrubbery in the city. The "Arlington camellia," a shell-pink variety brought by a former owner from China, has been propagated throughout the area. The house itself, designed by J. Hampton White, was begun in 1816 and completed four years later for the daughter of Pierre Surget. Surget, born in Rochelle, France, emigrated to New York, where he was a West Indian merchant, and to the Natchez region in 1785. At his death in 1796, he left a large estate to his 11 children.

Frank Surget, II, a grandson of Pierre Surget, was master of the ill-fated house Clifton when it was detonated by Union forces during the Civil War. James Surget, Jr., another grandson, was married to Catherine Boyd, daughter of Judge Samuel S. Boyd, a noted lawyer and later owner of Arlington. Pierre Surget's granddaughter, Kate Surget Minor, was the wife of John Minor, grandson of Don Stephen Minor, who succeeded Don Manuel Gayoso de Lemos as governor of the Natchez district in 1797.

On the death of Jane Surget White, her sister Catherine Charlotte Surget Bingaman inherited Arlington. Its subsequent owners were Judge Boyd; Mrs. Bienville Rhodes, the judge's daughter; Mr. L. S. Gillete; and Mr. Hubert Barnum, who presented the house as a wedding gift to his wife. Mrs. Barnum, the first president of the Pilgrimage Garden Club, supplemented the original furnishings with pieces of museum quality from her own collection. Arlington is presently owned by Mrs. Barnum's daughter, Mrs. Anne G. Vaughan, who makes it her home.

Arlington is a two-story residence of English brick with attic and basement and a classically symmetrical floor plan. On the first floor, the central hallway with its 17½-foot ceilings is flanked on the right by the drawing room and the library and on the left by the music room, stairhall, and dining room. The second floor consists of hallway and four bedrooms. A two-story outbuilding houses a kitchen, storage areas, and living quarters. The interior trim of Arlington is especially fine, as executed in overdoors, cornices, ceiling medallions, mantelpieces, and staircase. The entryway to the latter from the central hallway features Ionic columns, pilasters, and projecting cornice above a frieze carved in an elongated sunburst.

The chief ornament of the exterior is a two-story portico supported by four gracefully proportioned Tuscan columns. The rear elevation is spanned by a six-columned portico, portions of which have been enclosed. A dentiled and modillioned cornice defines the overhang of the shallow hipped roof which carries four symmetrically placed chimneys and, on the rear, two dormers with triangular pediments and classical framing. The four main doorways (front and rear on both floors) are enriched by intricately wrought side lights and fanlights, with the curvature of the latter repeated on the facade in the shuttered lunette centered on the protico gable. The front steps and exterior window and door casings are of marble.

Source: Department of Archives and History, State of Mississippi.

Foreign Exchange Rates Between the United States and Selected Foreign Currencies, 1978-1980 and March-September, 1981

Cents per unit of foreign currency

Country/currency	1978	1979	1980	1981						
				Mar.	Apr.	May	June	July	Aug.	Sept.
1 Australia/dollar	114.41	111.77	114.00	116.29	115.32	114.06	114.07	114.27	113.99	114.86
2 Austria/schilling	6.8958	7.4799	7.7349	6.6959	6.5355	6.1722	5.9502	5.8225	5.6968	6.0554
3 Belgium/franc	3.1809	3.4098	3.4247	2.8966	2.8220	2.6742	2.5734	2.5027	2.4466	2.5978
4 Canada/dollar	87.729	85.386	85.530	83.936	83.966	83.265	83.050	82.601	81.766	83.275
5 Denmark/krone	18.156	19.010	17.766	15.109	14.683	13.864	13.384	13.074	12.732	13.552
6 Finland/markka	24.337	27.732	26.892	24.612	23.059	23.207	22.511	22.045	21.607	22.225
7 France/franc	22.218	23.504	23.694	20.147	19.548	18.225	17.679	17.253	16.720	17.769
8 Germany/deutsche mark	49.867	54.561	55.089	47.498	46.219	43.601	42.054	40.977	39.988	42.545
9 India/rupee	12.207	12.265	12.686	12.131	12.060	11.900	11.688	11.229	11.038	10.971
10 Ireland/pound	191.84	204.65	205.77	173.25	168.46	159.49	153.61	149.40	146.04	155.04
11 Italy/lira	.11782	.12035	.11694	.09699	.09280	.08766	.08436	.08233	.08038	.08424
12 Japan/yen	.47981	.45834	.44311	.47897	.46520	.45332	.44621	.43055	.42881	.43582
13 Malaysia/ringgit	43.210	45.720	45.967	43.830	43.182	42.752	42.720	42.519	42.119	42.527
14 Mexico/peso	4.3896	4.3826	4.3535	4.2238	4.1880	4.1500	4.1066	4.0650	4.0301	3.9859
15 Netherlands/guilder	46.284	49.843	50.369	42.912	41.660	39.224	37.816	36.833	36.009	38.329
16 New Zealand/dollar	103.64	102.23	97.337	91.999	90.273	88.150	85.823	83.771	82.331	82.644
17 Norway/krone	19.079	19.747	20.261	18.540	18.271	17.652	16.907	16.387	16.177	16.779
18 Portugal/escudo	2.2782	2.0437	1.9980	1.7621	1.7178	1.6449	1.5899	1.5429	1.4999	1.5268
19 South Africa/rand	115.01	118.72	128.54	126.50	123.32	119.35	115.18	108.46	105.27	105.56
20 Spain/peseta	1.3073	1.4896	1.3958	1.1672	1.1395	1.0953	1.0565	1.0248	.99864	1.0407
21 Sri Lanka/rupee	6.3834	6.4226	6.1947	5.5527	5.4185	5.4422	5.3970	5.3491	5.1932	5.0056
22 Sweden/krona	22.139	23.323	23.647	21.704	21.309	20.450	19.802	19.293	18.870	18.435
23 Switzerland/franc	56.283	60.121	59.697	52.043	50.664	48.400	48.226	47.667	46.091	49.511
24 United Kingdom/pound	191.84	212.24	232.58	223.19	217.53	208.84	197.38	187.37	182.03	181.46
MEMO:										
25 United States/dollar[1]	92.39	88.09	87.39	96.22	98.80	103.59	106.86	109.87	112.29	107.98

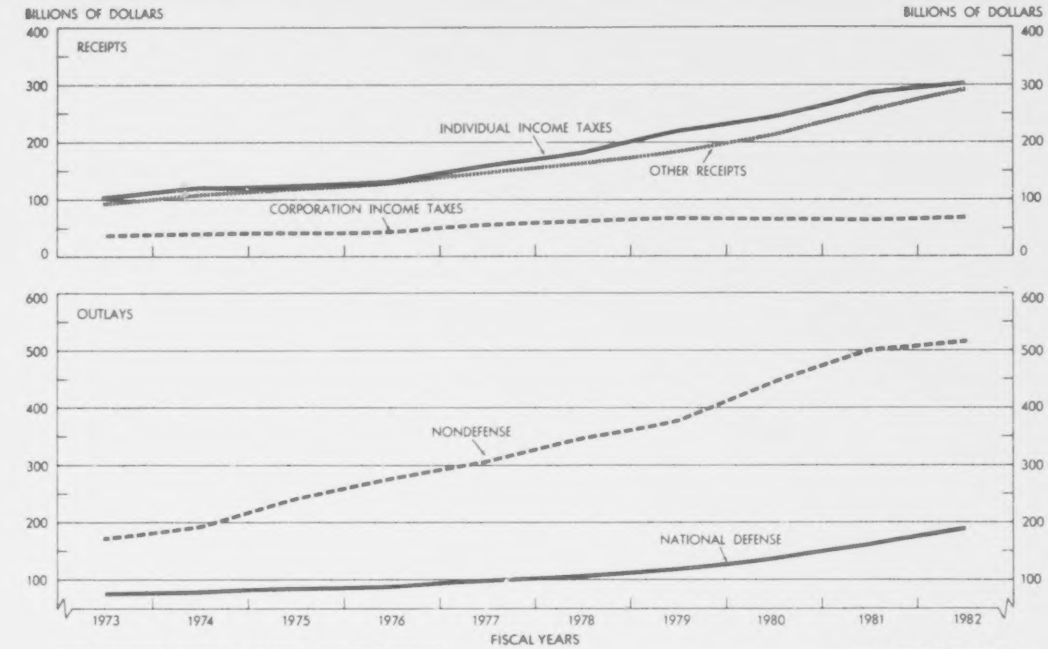
[1] Index of weighted-average exchange value of U.S. dollar against currencies of other G-10 countries plus Switzerland. March 1973 = 100. Weights are 1972-76 global trade of each of the 10 countries. Series revised as of August 1978. For description and back data, see "Index of the Weighted-Average Exchange Value of the U.S. Dollar: Revision" on page 700 of the August 1978 BULLETIN.

NOTE. Averages of certified noon buying rates in New York for cable transfers.

Source: Board of Governors of the Federal Reserve System, **FEDERAL RESERVE BULLETIN**, Volume 67, Number 9, October, 1981, P. A68.

FEDERAL BUDGET RECEIPTS BY SOURCE AND OUTLAYS BY FUNCTION

In fiscal 1981, budget receipts were $82.5 billion higher than in fiscal 1980 and budget outlays were $80.9 billion higher.



SOURCES: DEPARTMENT OF THE TREASURY AND OFFICE OF MANAGEMENT AND BUDGET

COUNCIL OF ECONOMIC ADVISERS

[Billions of dollars]

Period	Receipts				Outlays						
						National defense					
	Total	Individual income taxes	Corporation income taxes	Other	Total	Total	Department of Defense, military	International affairs	Health and income security	Interest	Other
Fiscal year or period:											
1971	188.4	86.2	26.8	75.4	211.4	75.8	74.5	4.1	70.1	19.6	41.8
1972	208.6	94.7	32.2	81.7	232.0	76.6	75.1	4.7	81.4	20.6	48.8
1973	232.2	103.2	36.2	92.8	247.1	74.5	73.2	4.1	91.8	22.8	53.9
1974	264.9	119.0	38.6	107.4	269.6	77.8	77.6	5.7	106.5	28.0	51.6
1975	281.0	122.4	40.6	118.0	326.2	85.6	84.9	6.9	136.2	30.9	66.5
1976	300.0	131.6	41.4	127.0	366.4	89.4	87.9	5.6	160.8	34.5	76.1
Transition quarter	81.8	38.8	8.5	34.5	94.7	22.3	21.9	2.2	41.5	7.2	21.5
1977	357.8	157.6	54.9	145.2	402.7	97.5	95.6	4.8	176.7	38.0	85.7
1978	402.0	181.0	60.0	161.1	450.8	105.2	103.0	5.9	189.9	44.0	105.9
1979	465.9	217.8	65.7	182.4	493.6	117.7	115.0	6.1	209.8	52.6	107.5
1980	520.1	244.1	64.6	211.4	579.6	135.9	132.8	10.5	250.3	64.6	118.4
1981 [p]	602.6	285.6	61.1	255.9	660.5	159.7	156.0	11.1	294.9	82.6	112.3
1982 (estimate) [1]	662.4	302.9	66.8	292.7	704.8	188.1	183.8	11.4	312.3	92.3	100.7

[1] Estimates from *Mid-Session Review of the 1982 Budget*, Office of Management and Budget, July 15, 1981.

Sources: Department of the Treasury and Office of Management and Budget.

MISSISSIPPI'S MOST COMPLETE COMPENDIUM OF STATISTICAL INFORMATION

Mississippi Statistical Abstract 1981

This thirteen edition of the MISSISSIPPI STATISTICAL ABSTRACT 1981, contains information, like that in previous editions, representing the single most-varied compendium of statistics about Mississippi to be found anywhere. It is used by researchers, administrators, planners, historians, educators, politicians, and a host of others who maintain an interest in Mississippi and its areas. Copies of earlier editions have been contributed in virtually every state in the Union and in a number of foreign countries.

Sixteen Sections of NEW and UPDATED Information. . . .

316 Tables and 43 Figures

1. Recreation, Geography and Climate
2. Population
3. Health and Vital Statistics
4. Education
5. Labor Force, Employment and Earnings
6. Manufacturing and Trade
7. Transportation
8. Communications and Public Utilities
9. Banking, Finance and Insurance
10. Law Enforcement, Courts and Crimes
11. Mineral and Forest Products
12. Public Finance and Tax Revenue
13. Social Insurance and Welfare Service
14. Government and Politics
15. Construction and Housing
16. Agriculture

Index

Please send me __________ copies of the

MISSISSIPPI STATISTICAL ABSTRACT

1981

. . .the price $15.95 per copy, plus $1.50 postage and handling

Name____

Address ______________________________________

City ____________________ State____________ Zip__________

____Check enclosed ____Bill me

Make checks payable to:
Division of Business Research
To order—fill in the above form and mail to:
Division of Business Research, P. O. Box 5288
Mississippi State, MS 39762

MEET THE FACULTY

Dr. J. Larry Hagler

School of Accountancy

Dr. J. Larry Hagler is a Professor, School of Accountancy at Mississippi State University. He earned his Bachelor of Science in Education from the University of Texas at El Paso, his Masters of Business Administration from West Texas State University and his Doctor of Business Administration from the University of Colorado. Also he is a Certified Public Accountant in both Texas and Mississippi.

Prior to coming to Mississippi State University, Dr. Hagler was an Accountant for California Baptist College, 1965-1966; an Instructor of Business at Odessa College, 1966-1968; a Teaching Associate at the University of Colorado, 1968-1971; and Assistant Professor Accounting at Wright State University, 1971-1974. In the summer of 1976 he was a visiting Professor at Virginia Commonwealth University and in the summer of 1978 he was a visiting Professor at Texas Tech. Dr. Hagler came to Mississippi State University in 1974 as an Associate Professor of Accounting.

Publications by Dr. Hagler include: "The Franchise Fee," *Management Accounting*; "Franchise Repurchases for Stock," *The CPA Journal*; "Women in Accounting Education," *The Woman CPA*; and *The Academic Accountant: A Profile*, co-authored with James Sellers published by the University of Mississippi.

Dr. Hagler is a member of the American Institute of Certified Public Accountants, Petroleum Accountants Society and the American Accounting Association, where he has presented papers at the annual meetings. He is a Director of the Petroleum Accountants Society of Mississippi and the Coordinator for the MSU Oil and Gas Seminar. Dr. Hagler coordinates the Student Placement Service with CPA firms.

Dr. Hagler and his wife, Millie, have two children: Marlena, fourteen years old and Ken Lee, ten years old and both attend Starkville Public Schools. Mrs. Hagler is currently completing her Masters in Library Science and is the Children's Librarian at Starkville Public Library. The Haglers are members of the First United Methodist Church, where Dr. Hagler sings in the choir. Dr. Hagler enjoys golf in his spare time and the family enjoys camping vacations.

MEET THE FACULTY

Dr. Donald P. Robin

Department of Marketing

Dr. Donald P. Robin is a Professor of Marketing at Mississippi State University. His B.S. in Mechanical Engineering, Masters of Business Administration, and Doctorate of Business Administration degrees were earned at Louisiana State University.

Prior to coming to Mississippi State University in 1972, he taught several courses including the undergraduate course on Marketing Research at the University of Georgia. Since coming to Mississippi State University, he has taught a wide variety of Marketing courses, some of them are: Business Policy, Consumer Behavior Seminar, Advanced Marketing Theory, Quantitive Marketing Seminar, Consumer Behavior, Problems in Marketing, Marketing Policy, and Basic Marketing.

Dr. Robin has been a consultant and Marketing Researcher to the Starkville Daily News, the Mississippi Heart Association, The Bank of Mississippi, the Masonite Corporation, McRae Bealer Advertising Agency (Atlanta, GA) and Colfax Creosoting Company in Louisiana.

Professor Robin is an active member of the Southern Marketing Association. He has held the following offices: President, 1980-81; President-Elect and Program Chairman, 1979-80; Vice-President for Membership, 1978-79; and Vice President for Research and Publications, 1977-78. He has served the College of Business and Industry by being on the following University Committees: "Permanent" Chairman of the Ad Hoc Committee on Long Range Goals and Proposals, Chairman College of Business Committee for the Southern Association Institutional Self Study, member of the Curriculum Committee, and Chairman of the Library Committee.

Dr. Robin published a textbook with Harper and Row in 1978 entitled **Marketing: Basic Concepts for Decision Making**. He has also been the co-editor with Dr. Henry W. Nash of **Proceeding: Southern Marketing Association**. He has published a number of articles that have appeared in the following journals: **Journal of the Academy of Marketing Science, Journal of Marketing, Business Ideas and Facts, The Journal of Business Communication, The Southern Journal of Business**, and the **Mississippi Business Review**.

The area of research that currently interest Dr. Robin are General Theory in Marketing and Public Policy.

Dr. Robin and his wife, Eleanor, are the parents of three children; a son, Donald, 12 years old and twin daughters, Dianna and Danielle, 8 years old. Dr. Robin's hobby is golf. He is a member and Past-President of the Mississippi State Staff Golf League.

STATE ECONOMIC INDICATORS

Indicator	October 1981[1]	September 1981[2]	October 1980[2]	Per Cent Change One Month Ago[3]	Per Cent Change One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	1,024,800	1,019,500	1,039,100	0.5	− 1.4
Non-Ag Employment	825,100	824,500	834,400	0.1	− 1.1
Mining	11,100	11,200	11,000	− 0.9	0.9
Contract Construction	40,700	41,500	44,900	− 1.9	− 9.4
Manufacturing	219,100	220,100	219,700	− 0.5	− 0.3
Transportation and Public Utilities	41,600	40,500	42,200	2.7	− 1.4
Wholesale and Retail Trade	166,000	166,500	165,300	− 0.3	0.4
Finance, Insurance and Real Estate	33,100	33,200	32,900	− 0.3	0.6
Service	123,900	122,900	122,600	0.8	1.1
Government	189,500	188,700	195,900	0.4	− 3.3
Unemployment Rate (Per Cent Labor Force)	8.2	8.3	7.1	−−	−−
Average Weekly Earnings in Manufacturing (Dollars)	240.73	238.94	220.34	0.8	9.3
Average Hourly Earnings in Manufacturing (Dollars)	6.11	6.08	5.55	0.5	10.1
Average Weekly Hours in Manufacturing	39.4	39.3	39.7	0.3	− 0.8
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,787	2,957	2,960	− 5.8	− 5.8
Gasoline Delivered to Dealers (gals.)[6]	109,948	110,963	108,507	− 0.9	1.3
Dairy Production					
Milk (lbs.)[7]	66,000	64,000	63,000	3.1	4.8
Egg Production (No. eggs)[7]	141,000	139,000	135,000	1.4	4.4
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[8]	12,500	12,800	31,600	− 2.3	−60.4
Construction Loans	600	1,300	3,400	−53.9	−82.4
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[9]	1,683,149	1,979,735	1,742,861	−15.0	− 3.4
Telephones in Service (Number)[10]	1,533,693	1,530,754	1,498,556	0.2	2.3
RETAIL SALES ($000's)[11]	1,261,705	1,417,270	1,325,500	−11.0	− 4.8

Indicator	July 1981	June 1981	July 1980	Per Cent Change One Month Ago	Per Cent Change One Year Ago
AGRICULTURE ($000's)[12]					
Total Cash Receipts from Farm Marketings	123,022	139,587	99,762	−11.9	23.3
Cash Receipts from Marketing Livestock	79,605	72,866	79,848	9.3	− 0.3
Cash Receipts from Marketing Crops	43,417	66,721	19,914	−34.9	118.0

[1] Preliminary
[2] Revised
[3] Percent change calculated with revised figures; not comparable with previously published data.
[4] Mississippi Employment Security Commission
[5] State Oil and Gas Board for June
[6] Mississippi Motor Vehicle Comptroller
[7] Mississippi Crop and Livestock Reporting Service
[8] Federal Home Loan Bank of Little Rock
[9] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority
[10] South Central Bell Telephone Company
[11] Mississippi Tax Commission
[12] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month October	Month Ago	Year Ago	Current Month October	Month Ago	Year Ago	Current Month October	Month Ago	Year Ago
Aberdeen	2.6	65.9	8,416	0.1	4.0	41,573	— 9.1	1.9	82,100	150,300	169,600
Baldwyn	8.8	128.3	4,782	0.6	2.2	18,153	—11.0	3.6	——	19,600	——
Batesville	——	——	9,309	0.4	5.7	49,833	—15.5	8.3	28,600	71,500	330,000
Bay Springs	——	——	——	——	——	19,813	— 9.7	—11.7	——	——	——
Bay St. Louis	——	——	14,115	0.5	4.0	32,063	— 8.3	— 8.5	248,925	157,956	312,900
Belmont	— 0.4	—13.2	2,417	0.5	5.4	10,282	— 1.2	25.7	——	——	——
Belzoni	——	——	5,176	0.2	4.6	32,944	17.7	40.8	19,300	53,300	77,700
Biloxi	——	——	46,446	0.4	2.4	228,468	—27.7	12.4	568,770	254,868	728,881
Brandon	——	——	11,409	0.1	—3.5	36,485	— 8.6	46.6	——	231,100	152,500
Brookhaven	2.9	——	16,127	0.0	0.9	104,369	— 4.4	12.6	2,307,880	601,366	257,500
Brooksville	——	—33.4	1,311	1.1	—0.8	3,381	30.1	53.7	——	——	——
Canton	——	——	11,126	0.4	3.1	49,582	—22.5	—24.5	——	——	——
Carthage	— 3.5	—33.9	7,518	—0.1	0.4	37,742	— 0.7	12.9	629,000	39,650	30,200
Charleston	——	26.3	4,243	—0.2	1.9	7,730	—48.1	—49.4	——	——	——
Clarksdale	13.5	22.7	20,812	0.1	—0.8	108,600	— 4.4	8.7	——	——	——
Cleveland	——	——	14,009	0.1	—1.4	107,802	10.2	18.2	——	——	——
Collins	——	——	4,717	0.4	1.2	34,689	— 4.8	9.7	72,000	475,000	——
Columbia	——	——	16,293	0.4	2.9	79,589	— 4.7	2.3	——	——	——
Columbus	——	——	34,191	1.3	1.2	209,376	— 8.2	5.3	308,913	689,200	2,742,031
Corinth	3.1	24.4	21,115	—0.3	1.5	100,905	—16.2	4.9	168,513	168,422	——
Crystal Springs	——	——	6,004	0.4	2.6	23,531	6.5	— 6.2	5,000	77,000	218,000
Drew	13.1	14.4	2,850	1.1	4.2	9,614	—21.2	— 5.1	2,000	11,000	10,000
Edwards	0.1	87.4	1,734	—0.2	2.2	3,684	0.2	—12.7	——	70,000	3,000
Ellisville	——	——	4,134	0.7	3.5	18,102	14.5	18.6	——	——	——
Eupora	— 0.2	—10.2	4,478	0.5	1.6	15,562	— 8.0	— 3.0	——	——	——
Fayette	— 7.4	2.5	3,352	—0.4	1.0	9,539	1.1	7.4	——	——	——
Forest	——	——	5,140	0.1	1.6	50,358	—0.1	—4.0	——	——	——
Greenville	7.0	— 2.0	37,359	—0.2	1.2	233,151	— 6.3	— 1.1	——	——	——
Greenwood	——	——	24,005	—0.5	—0.1	172,566	14.6	12.6	24,800	88,790	1,632,172
Grenada	——	——	14,463	0.3	1.3	78,627	— 5.1	6.1	46,000	490,000	309,400
Gulfport	——	——	63,477	0.4	2.9	247,403	— 7.6	4.7	423,569	3,267,687	752,091
Hattiesburg	——	——	61,825	0.2	0.5	341,272	— 0.9	4.5	4,987,344	650,699	4,026,199
Hernando	2.6	—19.7	7,442	—0.4	2.5	25,397	23.3	1.5	——	15,300	672,500
Hollandale	22.0	— 3.0	3,404	1.6	2.8	13,231	3.0	14.5	16,780	16,780	1,500
Holly Springs	——	——	7,677	0.3	3.3	39,145	—38.3	8.9	——	——	——
Houston	——	——	5,731	—0.1	1.9	25,611	— 6.8	14.1	186,000	40,000	——
Indianola	16.1	—22.6	7,951	—0.5	1.3	61,488	— 2.4	— 8.5	——	——	——
Iuka	——	——	5,818	—0.1	2.3	30,046	1.3	19.4	——	——	——
Jackson	——	——	232,000	0.1	2.7	1,403,337	— 2.9	— 2.0	25,765,861	3,317,375	21,311,927
Kosciusko	— 4.4	4.6	9,550	—0.1	0.8	62,250	— 1.1	33.7	67,200	3,167	41,500
Laurel	——	——	36,184	0.2	4.0	348,999	— 3.4	20.6	858,244	560,518	1,897,808
Leland	——	——	5,340	0.6	1.9	19,208	— 4.5	10.4	644,714	4,800	3,200
Lexington	——	——	4,954	0.2	3.2	19,207	— 3.4	6.8	——	——	——
Louisville	——	——	10,811	0.1	0.9	47,593	— 2.7	5.1	333,960	71,190	457,944
Lucedale	——	——	8,643	0.1	3.3	33,043	— 0.8	8.5	72,000	——	——
Lumberton	——	——	2,991	0.9	2.1	8,087	— 1.4	5.7	——	——	——
Macon	— 8.5	——	3,781	0.5	0.8	13,811	— 6.5	— 2.8	——	——	——
Magee	——	——	5,516	—0.1	4.0	41,143	0.9	4.5	——	——	——
Magnolia	——	——	4,387	0.3	2.2	9,077	— 5.6	17.2	——	11,000	48,500
Marks	72.2	19.5	5,527	0.0	0.4	17,388	15.0	13.8	——	——	——
McComb	5.9	——	20,336	0.1	2.0	124,799	4.3	12.8	165,400	335,454	150,700
Meadville	3.6	— 1.0	——	——	——	4,443	5.1	—14.8	——	——	——
Mendenhall	36.9	5.1	6,714	0.7	3.2	19,382	8.8	11.3	——	4,000	7,400
Meridian	——	——	48,186	0.0	0.2	333,078	—15.0	0.3	388,828	453,617	301,586
Monticello	5.4	— 2.0	5,054	0.6	3.1	18,421	— 6.5	15.7	——	34,500	——
Morton	——	——	3,644	0.4	3.1	16,804	—10.4	— 2.7	——	——	——
Moss Point	— 4.4	1.5	16,603	0.2	2.4	44,132	—17.0	— 4.6	119.517	48.539	166.860
Natchez	——	——	30,783	0.2	2.9	214,843	—10.9	10.0	340,735	868,290	677,938
New Albany	6.0	—25.8	11,554	—0.1	2.3	55,712	— 1.1	10.1	119,500	138,500	95,000
Newton	——	——	4,177	0.1	3.3	22,536	— 2.4	— 0.2	23,620	——	89,960
Ocean Springs	8.1	143.3	16,212	0.2	2.3	63,773	— 3.8	1.8	——	——	——
Okolona	— 2.0	5.7	3,506	0.1	2.1	12,023	—20.0	—11.8	38,000	4,000	159,000
Oxford	——	——	21,783	0.0	0.2	83,658	2.8	1.7	814,750	97,700	154,025
Pascagoula	——	——	36,930	0.5	5.0	187,492	— 8.5	8.0	309,064	449,553	695,548
Pass Christian	——	——	5.770	0.4	4.0	9,733	— 3.1	—17.0	41,930	69,500	48,830
Philadelphia	——	—37.4	11,957	0.4	3.6	50,501	— 3.2	6.4	——	——	——

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month October	Month Ago	Year Ago	Current Month October	Month Ago	Year Ago	Current Month October	Month Ago	Year Ago
Picayune	——	——	16,258	0.2	5.0	79,969	— 2.2	20.4	271,000	416,000	352,000
Pontotoc	—33.0	1.1	9,608	0.0	1.8	37,159	— 1.8	8.4	——	——	——
Poplarville	——	——	4,306	0.8	3.2	16,923	16.1	16.5	239,000	40,000	——
Port Gibson	0.3	4.3	5,972	—0.3	3.4	14,996	— 6.8	8.6	——	——	——
Prentiss	——	——	——	——	——	18,103	—16.3	6.9	5,100	——	93,000
Quitman	117.3	——	5,028	—0.2	1.7	27,427	13.9	27.2	——	——	——
Raymond	13.9	18.6	3,346	0.6	5.1	4,027	12.1	—35.3	——	——	——
Richton	——	——	1,992	0.5	—0.7	8,980	3.2	—13.3	——	——	——
Rosedale	——	——	1,597	0.6	—1.6	6,986	—11.1	10.9	——	——	——
Ruleville	0.8	——	1,933	0.2	—1.9	12,806	22.6	10.4	13,400	2,500	160,500
Sardis	——	——	3,508	—0.2	0.2	17,976	2.8	22.2	31,000	48,000	4,000
Senatobia	——	——	7,029	0.5	3.1	37,118	—18.4	2.4	1,630,000	6,200	——
Shelby	7.7	9.8	1,630	0.0	—1.2	10,368	24.3	5.5	——	——	——
Starkville	——	——	25,604	0.3	1.6	95,939	7.1	6.6	373,274	357,500	852,000
Summit	——	——	1,708	0.4	3.3	9,049	—21.0	—11.8	——	——	——
Taylorsville	— 0.5	— 4.1	1,822	2.7	1.7	9,569	—16.7	—30.1	——	——	——
Tchula	——	——	2,004	—0.8	1.5	4,874	14.8	10.5	——	——	——
Tunica	——	——	4,266	—0.3	—0.6	14,360	—10.1	— 2.9	60,000	90,000	——
Tupelo	28.5	26.5	38,413	—2.6	—2.6	272,175	—15.6	— 1.6	347,955	1,381,298	929,273
Union	——	— 9.0	2,883	0.4	4.8	12,649	— 8.4	— 3.4	——	——	——
Utica	——	——	3,138	0.7	4.2	11,527	23.5	52.4	——	——	——
Vicksburg	——	——	39,846	0.7	2.0	172,680	— 8.4	— 6.0	191,605	105,200	1,633,850
Walnut Grove	——	——	1,069	0.7	3.2	1,630	— 7.2	30.0	——	——	——
Water Valley	——	——	4,285	0.3	5.7	23,895	10.6	17.4	——	——	——
Waynesboro	——	——	7,970	0.3	4.1	62,000	— 9.9	18.8	——	174,200	600
West Point	6.2	— 7.3	12,636	0.1	2.8	46,660	— 1.0	5.6	47,689	74,075	567,750
Wiggins	— 2.7	2.3	6,340	—0.1	0.5	22,502	— 1.7	11.4	26,500	200	45,800
Winona	— 7.4	4.3	5,046	—0.3	—0.3	27,799	—11.2	0.5	——	——	——
Yazoo City	——	——	12,656	—0.2	2.0	61,204	10.2	0.2	——	——	——

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON **[Hinds and Rankin Counties]**	October 1981[1]	September 1981	October 1980	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	151,300	150,600	154,500	0.5	— 2.1
Unemployed Persons	9,700	9,400	8,200	3.2	18.3
Per Cent of Labor Force	6.4	6.2	5.3	——	——
Employed Persons	141,600	141,200	146,300	0.3	— 3.2
Non-Ag Wage & Salaries	122,400	122,100	126,300	0.3	— 3.1
Manufacturing	17,000	16,800	17,600	1.2	— 3.4
TELEPHONES IN SERVICE	251,627	251,354	245,754	0.1	2.4
CITY SALES TAX COLLECTIONS	1,459,060	1,501,429	1,486,597	—2.8	— 1.9

BILOXI-GULFPORT **[Hancock, Harrison and Stone Counties]**	October 1981[1]	September 1981	October 1980	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	64,850	64,190	64,640	1.0	0.3
Unemployed Persons	4,510	4,180	3,800	7.9	18.7
Per Cent of Labor Force	7.0	6.5	5.9	——	——
Employed Persons	60,340	60,010	60,840	0.5	— 0.2
Non-Ag Wage & Salaries	51,450	51,220	51,820	0.4	— 0.7
Manufacturing	8,280	8,170	8,370	1.4	— 1.1
TELEPHONES IN SERVICE	115,693	115,289	112,600	0.4	2.8
CITY SALES TAX COLLECTIONS	485,604	593,886	451,246	—18.2	7.6

[1] Preliminary

Merry Christmas
and a Happy New Year
from the
Division of Business Research

DIVISION of RESEARCH
College of Business & Industry
MISSISSIPPI STATE UNIVERSITY

Front row: [left] Janel Leavitt, Sadia Al-Jibouri, Dale Adams, Susan Pittman, Donna Reddish, Diane Pend[illegible]. Back row: [left] Guy T[illegible]eden[illegible]., Jim Cook, [illegible]y P[illegible]rson, Leo C[illegible]tham, Robert [illegible]rnka

/ [illegible] u 3255-2

MISSISSIPPI
BUSINESS REVIEW

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

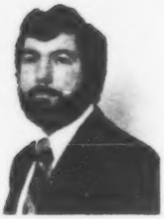
POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Second Class Postage Paid at
Mississippi State, Mississippi 39762

Return Postage Guaranteed

BEST AVAILABLE COPY

Dr. Donald P. Robin



Dr. Louis M. Capella

Dr. Robin is a Professor in the Marketing Department in the College of Business and Industry at Mississippi State University. He received his B.S., M.B.A., and D.B.A. from Louisiana State University.

Dr. Capella is an Associate Professor in the Marketing Department in the College of Business and Industry at Mississippi State University. He received his B.S.B.A. and M.B.A. degrees in marketing from Xavier University and his D.B.A. from the University of Kentucky at Lexington.

TABLE OF CONTENTS

Developing a Model to Predict Voter Behavior 3
New and Expanded Industry 9
Tourist Briefs: The Manship House 10
Indexes of Selected Mississippi Economic Indicators 13
Productivity and Related Data, Private Business Sector, in United States 13
Consumer Prices 14
Meet the Faculty: G. Pepper Holland 15
Meet the Faculty: Dr. Flavous Hutchinson 16
State Economic Indicators 17
Business Activity By City 18
SMSA 19
Employment Covered by the Employment Security Law by County 20

VOLUME XLIII JANUARY, 1982 NUMBER 7

James D. McComas, Ph.D.
President, Mississippi State University
Gaines M. Rogers, Ph.D.
Dean, College of Business and Industry
Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing
Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics
Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics
Louis M. Capella, D.B.A.
Editorial Advisor
Orris L. Odom, II, Ph.D.
Editorial Advisor
Gary A. Williams, D.B.A.
Editorial Advisor
Donna M. Reddish
Assistant Editor
Dale Adams
Secretary
Diane Dendy
Secretary
Sadia Al-Jibouri, M.B.A.
Research Assistant

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

ABUER MEMBER

Developing a Model to Predict Voter Behavior

BY

Donald P. Robin
and
Louis M. Capella

The purpose of this paper is to explore some of the potential variables that explain voting behavior. Voting is viewed by marketers as an act of consumption and as such is under the preview of the marketing researcher. In order to study such behavior a referendum in Starkville, Mississippi was selected for use. The referendum was concerned with two issues: (1) the sale of beer within city limits of Starkville, Mississippi, and (2) the offering of bonds to finance street development and maintenance in the same community.

There were 116 valid responses collected and coded. Portions of the questionnaire were designed to collect data representing measures of "political involvement," "locus of political control," "social participation," "perceived risk," "opinion leadership," voter registration, respondents' intention to vote, demographic and socioeconomic data.

Research Hypotheses

Five research problems were identified as areas of interest. Proposed hypotheses were:

1. Opinion leadership and perceived risk are good predictors of social participation.
2. Opinion leadership and perceived risk are good predictors of political involvement.
3. Locus of control and social participation are good predictors of political involvement.
4. Locus of control, social participation, and political involvement are good predictors of actual voting behavior.
5. People tell the truth to interviewers about whether they are registered to vote and whether they will vote. Also examined was the question, "Do some people lie more than others?"

The validity of certain questions appearing on the questionnaire was tested prior to using such data in subsequent analyses. In addition it was necessary to recode some of the source data in preparation for processing. These procedures are discussed in the following section of this paper. Remaining sections present the analysis of the five research problem areas and a concluding summary.

Recoding and Validation

Information on a respondent's level of opinion leadership was captured by responses to seven questions. Prior research indicated that this measure might be a good predictor variable and that these seven questions could be used to create an index measuring opinion leadership. Direction of responses to some of the questions were intentionally reversed in an effort to improve questionnaire design. Any instances of missing data were recoded with the mean value of the range for the particular questions missing a value. Subsequently, a computed variable was calculated as the sum of the numeric responses to the initial seven questions designed to measure opinion leadership.

An alpha coefficient for reliability of .656 was derived using the seven opinion leadership questions into the opinion leadership index.

The single variable representing the cumulative scores of the seven questions had a potential range of 7 to 16. Individual cases were assigned to one of three divisions based on their cumulative opinion leadership score. A new variable (OLQT) was computed to identify the division to which a case had been assigned. If the cumulative opinion leadership was less than 10.5 the value 1, indicating a high opinion, was assigned to OLQT. Scores greater than 13.5 were given a 3, indicating a low opinion. For cases not previously assigned, OLQT was given a value of 2, indicating a moderate opinion of leadership. This transformation of data brought forth an ordinal measure of the index scale for opinion leadership.

As previously mentioned, the questionnaire was designed to capture information on three other attitudes: political involvement; locus of political control; and social participation. Nine questions were intended to measure political involvement; five questions were used to measure locus of control; and four questions were used to measure social participation. Each of these were measured on a metric scale ranging from a value of 1—strongly agree to 7—strongly disagree. The nature of each question appeared to measure its intended purpose. Factor analysis was applied in an attempt to determine if the respective questions could be used to compose index scales.

The initial factor analysis was conducted with a minimum eigenvalue of 14 to allow for a potentially higher number of factors. An eigenvalue measure represents the amount of variance accounted for by a factor. A screen test plotting eigenvalues against associated factors indicated a break in the data between three and seven factors. With the inclusion of factor three, the cumulative percent of variance accounted for was approximately 85%. Restricting analysis to three factors resulted in satisfactory loadings of the four social participation questions to factor 1 and the five locus of control questions to factor 2. Although some of the questions pertaining to political involvement did load favorable to factor 3 (.50 and above), this occurred for only three of the nine questions.

Correlation coefficients of each of the 18 questions were reviewed for evidence of multicollinearity. Highest coefficient was .48, while the great majority recorded below .30. It was concluded that no significant cases of multicollinearity were present.

Alpha reliability tests were also performed in an effort to determine the validity of respective questions for use in index scales. Alpha level for the political involvement scale was improved from .429 to .514 by omitting one question. Locus of control scale was improved from an alpha level of .274 to .438 by removing one question. And finally, alpha level for social participation was .659 and could not be improved by deleting any of the four questions measured.

Conclusions drawn from these analysis resulted in the computation of three index scales. First, political involvement incorporated eight different questions. Second, locus of political control included four questions. And third, social participation included four questions. In each case the scores of the responses were summed into an appropriate index variable. Accumulated sums were then divided by the proper number of contributing questions to return the scale of the index to the original measurement scale.

RESEARCH PROBLEM ONE

The first research problem was to test the hypothesis that opinion leadership and perceived risk are good predictors of social participation.

Transformations of data, previously discussed, resulted in a single variable called social participation, measured on a metric scale, and a variable called opinion leadership, measured on an ordinal scale. In addition, a single question provided a measure of perceived risk, based on an ordinal scale. This combination of one metric dependent variable and two nonmetric independent variables dictates the use of regression analysis with dummy variables. This tool permits the conversion of categorical data into metric scale for use in a regression equation.

Conversion of categorical data was accomplished by creating five (5) variables to represent main effects data and six (6) variables to represent interaction data. Individual and stepwise regression runs were then performed to isolate the results of the main effects model, additive model, and saturated model.

Results of Analysis

Dummy variables Q1 and Q2 represented the opinion leadership categories 1 and 2, "high" and "moderate," respectively. Mean values for variables Q1 was .2672 and variable Q2 was .4828 as expected. Dummy variables R1, R2, and R3, were used to identify responses 1, 2, and 3 for perceived risk, question 19.

To accommodate interactive relationships, six additional dummy variables were created:

1. Q1R1—high opinion, usually certain.
2. Q1R2—high opinion, sometimes certain.
3. Q1R3—high opinion, sometimes uncertain.
4. Q2R1—moderate opinion, usually certain.
5. Q2R2—moderate opinion, sometimes certain.
6. Q2R3—moderate opinion, sometimes uncertain.

The total number of variables then incorporated in the regressions were 12, the dependent variable social participation and 11 dummy variables.

Correlation coefficients between the dependent variable and each of the independent dummy variables indicated no strong correlation (maximum = .16).

A regression with only the opinion leadership independent variables, Q1 and Q2, indicated that approximately seven percent of the variance in the social participation index score could be explained by the opinion leadership scale (R squared = .06669).

The F value of 4.04, with 2/113 df, had a p-value between .05 and .01.

The mean social participation scores for the individual opinion leadership categories were obtained from regression equation coefficients. "Lower opinion" group mean was the value of the constant in the equation, a value of 3.7672. "Moderate opinion" group mean was calculated at 2.9017, and "high opinion" group mean was calculated at 3.2338. Although the differences between the means are relatively small, the data indicated that individuals classified in the moderate level of opinion leadership have lower social participation scores, indicating more sociable individuals.

High opinion leadership individuals are measured as slightly less sociable and finally persons with a low opinion leadership score were measured as least sociable.

Mean social participation scores for the various levels of perceived risk were derived from the regression equation using social participation with the dummy variables R1, R2, and R3.

Category	Mean score
1. Usually certain	2.845
2. Sometimes certain	3.365
3. Sometimes uncertain	3.192
4. Almost never certain	4.375

The regression model resulted in an F value of 3.4, with 3/112 df, and a p-value between .05 and .01. So there is less than a 5% probability that these findings would occur by chance alone. Individuals then with lower perceived risk had lower score values for social participation and consequently could be considered as having greater social participation. Their counterparts, who were less certain about their choice of political candidate or issue, had a higher social participation score, indicating a less sociable individual.

Combining the dummy variables Q1, Q2, R1, R2, and R3 into a regression equation with social participation resulted in a R square of .1409. This additive model had an F value of 3.61, with 5/110 df, and a p-value between .05 and .01.

Final regression was a saturated model including both main and interaction effects. All dummy variables combined to explain approximately 26% of the variance in the social participation index. An F value of 3.6, with 11/110 df had a p-value less than .01. Mean social participation scores from the saturated model were as follows:

		Usually certain	Sometimes certain	Sometimes uncertain	Almost never certain
	High	3.31	3.80	1.75	4.25
Opinion Leadership	Moderate	2.39	3.17	2.83	4.12
	Low	3.18	3.40	4.75	4.75

Analysis of variance by the use of dummy regression was applied for tests of significance. Using R square values from previous models, the F values were derived and appear in Table I.

Results of analysis of variance suggest that the opinion leadership index is not significant and would not be considered a good predictor of social participation score in this data. On the other hand, perceived risk is a significant predictor variable of social participation score. And since the interaction effect is found to be significant there is no need to adjust marginal mean scores.

RESEARCH PROBLEM TWO

Reseach problem number two was to test the hypothesis that opinion leadership and perceived risk were good predictors of political involvement.

TABLE 1

ANALYSIS OF VARIANCE RESULTS FOR NONMETRIC VARIABLES

Source of Variation	MS	F	df	P-value
1. Saturated Model	(.25894)/11 = .0235	3.29	11/104	less than .01
2. Additive Model	(.14093)/5 = .0282	3.95	5/104	less than .01
a. Opinion leadership adjusted for perceived risk	(.14093 - .08356)/2 = .0115	1.61	2/104	Greater than .10
b. Perceived risk adjusting for opinion leadership	(.14093 - .06669)/3 = .0247	3.46	3/104	between .05 and .01
3. Interaction	(.25894 - .14093)/6 = .0197	2.76	6/104	between .05 and .01
4. Error	(1 - .25894)/104 = .007135			

Methodology

This problem paralleled that of the first with the exception of substituting a different dependent variable. Here political involvement was considered the dependent variable as opposed to social participation. In either case the scale is metric for the dependent variable and non-metric for both independent variables, opinion leadership and perceived risk. Once again then, the appropriate analysis tool was regression analysis with dummy variables.

Eleven dummy variables computed for research problem one were again applied in individual and stepwise regression models to identify results of the main effects model, additive model, and saturated model.

Results of Analysis

A regression with only the opinion leadership independent variables indicated that approximately five percent of the variance in the political involvement index score could be explained by the opinion leadership scale (R square = .05489). The F value of 3.28, with 2/113 df, had a p-value between .05 and .01.

Mean political involvement scores for the individual opinion leadership categories were obtained from regression coefficients. "Lower opinion" group mean was the value of the constant in the equation, a value of 4.1897. "Moderate opinion" group mean was calculated at 3.7993, and "high opinion" group mean was calculated at 3.5888. The data indicates that individuals who hold themselves in higher opinion leadership positions have lower political involvement scores and consequently are said to be more politically involved.

Mean political involvement scores for the various levels of perceived risk were derived from the regression equation using political involvement with dummy variables.

Category	Mean Score
1. Usually certain	3.73
2. Sometimes certain	4.0
3. Sometimes uncertain	3.51
4. Almost never certain	4.28

The regression model resulted in an F value of 1.9, with 3/112 df, and a p-value greater than .10. So these findings could have occurred by chance alone more than 10% of the time.

Combining the dummy variables from opinion leadership and perceived risk in a regression equation with political involvement resulted in an R square of .0962. This additive model had an F value of 2.34, with 5/110 df and a p-value between .10 and .05.

The final regression equation was a saturated model including both main and interaction effects. All dummy variables combined to explain approximately 12% of the variance in the political involvement index. An F value of 1.24, with 11/104 df for the model had a p-value greater than .10. Mean political involvement scores from the saturated model were as follows:

		Usually certain	Sometimes certain	Sometimes uncertain	Almost never certain
	High	3.50	3.83	3.25	4.63
Opinion	Moderate	3.77	3.96	3.33	3.72
Leadership	Low	4.11	4.20	3.92	4.92

An analysis of variance by the use of dummy regression was applied for tests of significance. Using R square values from previous models, the F values in Table 2 were derived.

TABLE 2

ANALYSIS OF VARIANCE FOR NONMETRIC VARIABLES

Source of Variation	MS	F	df	P-value
1. Saturated Model	(.11615)/11 = .0106	1.25	11/104	greater than .10
2. Additive Model	(.09616)/5 = .0192	2.26	5/104	between .10 and .05
a. Opinion leadership adjusting for perceived risk	(.09616 - .04926)/2 = .0235	2.77	2/104	between .10 and .05
b. Perceived risk adjusting for opinion leadership	(.09616 - .05489)/3 = .0138	1.62	3/104	greater than .10
3. Interaction	(.11615 - .09616)/6 = .0033	.39	6/104	greater than .10
4. Error	(1 - .11615)/104 = .008499			

Results of analysis of variance suggested that neither opinion leadership nor perceived risk were good predictors of political involvement scores in this study. However, both measures explained some of the variance.

RESEARCH PROBLEM THREE

Problem three focused on the hypothesis that locus of control and social participation are good predictors of political involvement.

Methodology

Each of the variables incorporated in this problem are indices created by the transformation of data as previously presented in the section labeled Recoding and Validation. Since the single dependent variable, political involvement, is metric and both independent variables, locus of control and social participation, are also measured on a metric scale, the appropriate tool for analysis was multiple regression analysis. A stepwise analysis was conducted to facilitate analysis of the impact of each of the independent variables on the regression equation.

Results of Analysis

Correlation coefficients between independent variables used in the regression indicated no significant problem of multicollinearity. The value between locus of control and social participation recorded the higher correlation coefficient with the dependent variable political involvement, and consequently, it was the first independent variable to enter the equation.

Initial analysis placed restrictions on each independent variable as each was considered for possible candidacy in the regression model:

1. Minimum F value of .01, the system default value.
2. Tolerance to be not less than .8, thereby assuring that 80% of the variance of a potential independent variable is unexplained by predictors already entered.

The minimum F value was later increased to .4 to prevent insignficant variables from entering the equation.

The resulting regression model adopted only one of the independent variables—social participation. Locus of control recorded an F value of .102 at 1/111 df which was significant at a level greater than .10.

Under the previously discussed constraints, the analysis resulted in a model explaining approximately 14% of the total variation in political involvement by the single predictor variable social participation. The F value of 17.4, with 1/111 df, had a p-value less than .01.

Results showed that there was a relationship between political involvement and social participation. However, locus of control did not function as a good predictor of political involvement. Although statistical findings were significant at a very small level, less than .01, the percentage of explained variation was relatively small at some 14%. There existed then a considerable degree of variation in political involvement scores that could not be attributable to the social participation index.

RESEARCH PROBLEM FOUR

The fourth area of analysis was a test of the hypothesis that locus of control, social participation, and political involvement are good predictors of **actual** voting behavior.

Methodology

All three predictor variable indices have been previously discussed and as indicated were measured on the metric scale. The dependent variable in this investigation, however, was non-metric in measurement. In this study then there was one dependent variable that was non-metric and potentially several independent variables which were metric. The appropriate tool for this analysis was multiple discriminant analysis.

Split sample tests were performed in an effort to control bias due to sampling errors. This approach calls for the random division of data into a set used for analysis and for the remaining cases to be assigned into a set used for validating the results of the analysis. Split sample tests were subsequently performed with division providing approximately two-thirds of the cases for analysis and the remaining for validation. Cases were randomly selected for division appointment.

Multiple analyses were performed to establish a consistent pattern in the findings since random selection of cases were invoked.

Tolerance level was established at .7. Tolerance addresses the proportion of variation, explained by the variable being considered for inclusion into the model that is not already explained by variables previously included in the model. Other default parameters were permitted to prevail.

The method of analysis used was the Wilk's stepwise entry method. In any of the stepwise methods the "next best" discriminator is entered before any others. Variables may be removed and reentered at a later step if it provides discriminating power at that time. The variable which minimizes Wilk's Lambda also maximizes the F ratio. This is the criterion used in selecting the "next best" discriminator to be included in the discriminant functions.

Results of Analysis

On repeated analysis (4) actual voting record of cases selected for analysis were about equal, approximately 50% voted and 50% did not vote. Only one of the three independent variables consistently entered the discriminant function—locus of control. Levels of significance for the single independent variable were .10, .29, .06, and .10. Canonical correlations were consistently low at .19, .13, .22, and .20, indicating that the discriminant function could not successfully divide group membership on actual voting behavior. More evidence of poor discriminant function performance was given by the frequency plots showing a considerable degree of overlap of group 1 and group 2 classifications. Final evidence was provided by the statistics of percent of "grouped" cases correctly classified. Of those cases selected for analysis the various tests correctly classified 62%, 57%, 59%, and 63%. At the same time, cases not selected for analysis were correctly classified 64%, 71%, 69%, and 62% of the time. Since chance probability alone offered a 50% chance of correct classification, this small improvement through the use of a discriminant function is apparently not significant. It may be concluded that locus of control, social participation, and political involvement as measured in this data were not good predictors of actual voting behavior.

RESEARCH PROBLEM FIVE

Statement of Problem

The final research problem was to test the hypothesis that people tell the truth to interviewers about whether they are registered to vote and whether they will vote. An additional question for consideration was "Do some people lie more than others?"

Methodology

Two pieces of data were analyzed when examining the question whether people tell interviewers the truth about whether they are registered to vote: (1) respondents answer to question number 29, "Are you registered to vote?"; and (2) actual voter registration status. Both data items offered dichotomous results and consequently nominal, ordinal, and/or metric scale measurement was appropriate. A crosstabulation analysis of this data was conducted in an effort to ascertain if any association existed.

A similar investigation on whether individuals are truthful about their intentions to vote was analyzed by testing the association between respondents' expressed probability of voting in the referendum and actual voting status, determined about the voting.

Portions of data indicating probability of voting behavior were recoded to facilitate processing. Four responses to question 31 were considered valid: (1) 0% chance; (2) 50% chance; (3) 100% chance; and (4) 10% meaning nonresponse. Each case containing any one of the first three values was recoded with a value 3, 2, or 1 respectively. Since the original data was measured on a metric scale, a transformation maintained this characteristic on the newly created variable.

The other variable involved in this question was actual voter participation. Again a dichotomous measure of "yes" or "no" permitted treatment of data as nominal, ordinal, and/or interval. Crosstabulation was again applied to analyze the existence of associations.

Implied and actual voter registration data was used to establish the criterion as to whether an individual lied. A new variable was created identifying the case as an individual who told the truth (code 1) or lied (code 2). Again a dichotomous measure afforded latitude in evaluation techniques due to scale measurement. Crosstabulations were conducted with the new variable recording truth/lied status and various demographic pieces of information.

Results of Analysis

Concerning the question of whether respondents are truthful about their voter registration status, it was determined that of the 115 respondents used in this analysis, 21, 18.3% indicated they were registered to vote when in fact they were not. Only 3 individuals or 2.6% recorded not being registered to vote when in fact they were. These findings were not found to be significant in establishing an association between the two variables.

Chi-square test of significance was inappropriate because 50% of the cells' frequencies were less than 5. The Phi statistic, having a possible range from 0 to +1, was low at .028. Asymmetric lambda measures the percentage of improvement in ability to predict the value of the dependent variable given the value of the independent variable. Asymmetric lambda for this data was .0. Relying on the dichotomous state of both variables the Pearson's Product Moment of Correlation was considered. The R value was very low at .028, with significance at the .38 level indicating that statements to the effect that they were registered was a relatively poor predictor of actual registration.

These findings lead to inconclusive evidence as to whether respondents told the truth about their voter registration to interviewers of the study.

Turning next to the question of whether respondents tell the truth about their intention to vote, an association was established that was statistically significant between expressed intention to vote and actual voting patterns. It was found that 84 out of 108 individuals who said there was a 100% chance that they would vote, actually did vote. Of this group 41.7% failed to make it to the voting booth. Twenty-one respondents said there was a 0% chance that they would vote, and 19 of them stood by their word. Chi-square test again could not be used because 2 of the 6 cells had cell frequencies less than 5. Asymmetric lambda indicated that the ability to correctly predict actual voting status, given the information on intention to vote, increased by 28.3%. Reverse predictions, however, were not possible. Pearson's R showed some association at .375 that was significant at the .0000 level.

These analyses resulted in the conclusion that respondents are generally truthful with interviewers when indicating their chances of voting. It is this writer's personal belief that the findings would have been stronger had individuals followed through on their good intentions. Perhaps several people were planning to vote, but somehow did not get around to it.

SUMMARY

This study examined several hypotheses dealing with the predictive qualities of voter attitudes collected by questionnaire. It was found that some of these analyses offered a degree of statistical significance. Individual research problem together with their analysis and results were presented in separate sections of this paper.

This article was partially funded by the Division of Business Research at Mississippi State University during the Summer, 1981.

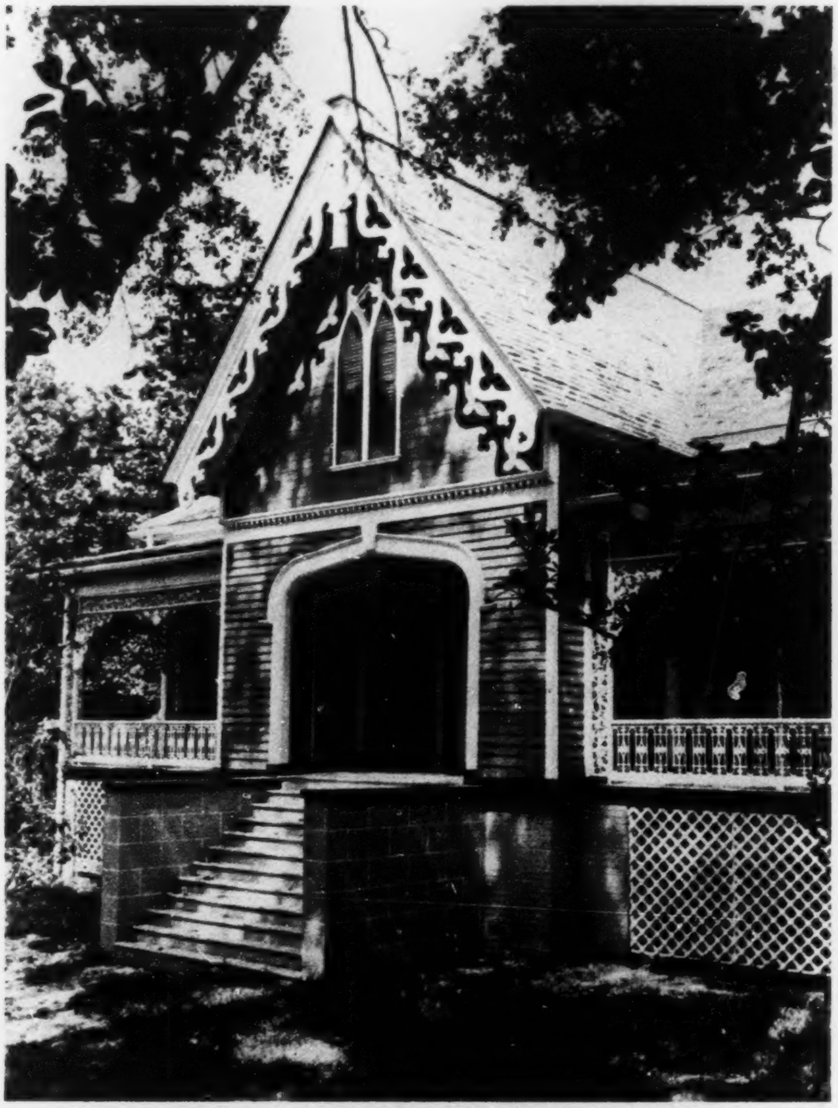
NEW AND EXPANDED INDUSTRY

Town	Firm	Product	No. of Employees
NEW			
Baldwyn	**Bio Clinic**	Medical Foam Products	100
Corinth	**Caterpillar Tractor Company**	Remanufactured engines and Engine components	200
Eupora	**Kershenstine's Beef Jerky**	Beef Jerky	20
Guntown	**Columbian Rope Company**	Rope	150
Rosedale	**Fine Vine**	Blue Jeans	100
Sardis	**Outboard Marine**	Lawnmowers	300
EXPANDED			
Clarksdale	**Taylor Chair Co.**	Commercial Chairs	50
Edinburg	**Active Apparel**	Shirts	80
Verona	**Action Industries**	Furniture	50

Tourist Briefs

The Manship House

Jackson, Mississippi



Front facade of the Manship House, a Gothic Revival cottage built in 1857 by Charles Henry Manship.

The Manship House restoration, opening February 12, 1982, is in strong contrast to most restorations of southern antebellum homes. Visitors to the Manship House will not find grandeur or elegance, but an accurate representation of the daily life of the Manship family during the last half of the nineteenth century, a life reflecting both the values of the era as well as the influence of a remarkable man.

Built in 1857 by Charles Henry Manship, prominent Jackson artisan and civic leader, the Manship House has been under careful restoration by the Mississippi Department of Archives and History for two years. One of the finest extant examples of the Rural Gothic Revival style in the region, the house has been returned to the way it was during the 1880s when Manship lived there with his large family and looked back over an extraordinary career.

Charles Henry Manship learned his craft in Baltimore, where he was an apprentice to an ornamental painter and chairmaker. He was attracted to the South and worked as a sign painter in New Orleans for some time before migrating upriver to Vicksburg and then to Jackson: "Jackson offering me some attraction, I made the trip on foot, reaching Jackson February 9th at sunset." In Jackson, work was beginning on the Old Capitol and the Governor's Mansion, and, according to family tradition, contractor David Daley signed Manship on to do carpentry and painting on both buildings.

Early in his career as craftsman, Manship began to take on civic duties and was elected alderman of the city. He married Adeline Daley, daughter of contractor Daley and opened his own shop, which featured imported wallpapers from Europe. An ad in a Jackson newspaper offered Manship's skills in "House, Sign, and Fancy Painting." In 1857 he decided to build a home for his family.

The inspiration for the Manship House was probably a design from **Architecture of Country Houses** (1850) by A. J. Downing. The "Cottage-Villa in the Rural Gothic Style" plan was common in the North, where the "picturesque movement" of architecture was growing in popularity. Manship adapted the design to a warmer climate, adding a wide hall in the center of the house and taller (fourteen-foot) ceilings to provide cooling ventilation.

Manship built his home in what was then the outskirts of Jackson. The house stands now near downtown Jackson, but it is set back in lush green surroundings. Painted in the original olive green and cream color scheme found by restoration experts under several coats of paint, the house exhibits fine scrollwork and lacy iron balustrades. The Green Revival interior trim, made of pine, was painted by Manship (a process called graining) so that it appears to be fine wood—mahogany and golden oak. The pine mantel pieces were painted to resemble potora—a deep black marble with gold veining. The process involved, first, painting the wood black and mottling it with a white-pigmented glaze. Then Manship, using a small artist's brush, painted veins of gold, cream, and rust colors, hollowing out solid patches with a dry rag as he went, until he achieved the desired effect. Then the surface was coated with a shiny glaze for a polished look. The delicate repair of Manship's graining and marbling was accomplished by Malcolm Robson, a fifth-generation grainer from Surrey, England, who has closely reproduced the work of Manship in areas where damage prevented restoration.

The original wallpapers were recovered by restoration experts who peeled away several surface layers until they reached the layer of the appropriate era. Drawings were made from the recovered pieces, and from the drawings, close wallpaper reproductions have been made, which range from a fine stencil design in a bedroom to an amusing trompe l'oeil effect in the broad hall that lies in the center of the house. The wallpapers probably came from Manship's own shop, where he carried a large and varied stock.

The dining room of the Manship House is perhaps the most unusual room. To a careful observer, the room appears to be paneled entirely in oak, a luxurious effect Manship achieved by graining over wallpaper from floor to ceiling. Although Manship's work had since been painted over, the graining restorer reproduced the work by following Manship's process. First wallpaper was applied to the fourteen-foot walls. Then strips of mitered wallpaper were layered on top, creating the look of false wood-inset pieces. The whole room was painted a rich oak color and grained, with decorative oak figurations added afterward. Finally, false shadowlines were painted on the false inset pieces to add depth. It was an inexpensive way for Manship to give this important room a distinctive look.

The "bathing room" is an interesting feature of the house. A rare convention for the region, the room had no plumbing, but was simply a room set aside for bathing, probably in a large tin tub. Perhaps in a family so large as the Manships, such a room was a necessity.

Over half of the furnishings in the restoration are original to the Manships. It is thought that five pieces

Grainer Malcolm Robson transforms wooden mantelpiece into portora marble using marbling techniques similar to those used by Charles Henry Manship, Jackson artisan, in the Manship House.

were made by Charles Henry Manship, including a wardrobe and tables.

Over his long career as craftsman and businessman, Manship served his adopted city in numerous elected and appointed offices, including alderman, city clerk, postmaster, member of many civic boards, and mayor of Jackson.

As mayor, Manship surrendered the city to General William T. Sherman on July 17, 1863. The Confederate fortifications erected around Jackson in 1863 ran along the edge of the Manship property to the south of the house, where Fortification Street now runs.

Of Manship's fifteen children, ten survived to celebrate their parents' golden wedding anniversary on December 12, 1888. On that day, Manship gathered his large family about him and posed for a group picture on the steps of his home. Local newspapers hailed the occasion, noting that Manship, one of Jackson's most distinguished citizens, was also its oldest.

Manship continued his civic work until his death in 1895. His skills as an artisan and as a politician were passed down to his heirs, although none has yet combined the two careers as successfully as he. His son, Luther Manship, was elected the state's lieutenant governor in 1908 and Luther Manship, Jr., served as judge. Another grandson,Paul Manship, became an internationally known artist whose designs include inaugural medals for presidents Franklin D. Roosevelt and John F. Kennedy and the **Prometheus** fountain in New York City's Rockefeller Center.

The Manship House was acquired from the Manship family heirs by the state of Mississippi in

1974. The Manship House restoration, funded by legislative appropriations, federal grants from the Department of the Interior, and private donations, was begun in 1978. The project, directed by the Mississippi Department of Archives and History, also had the generous support of the Junior League of Jackson.

A visitor center adjacent to the Manship House will be the starting point for guided tours. Exhibits on the life of Manship and on the decorative arts tradition of the nineteenth century will prepare visitors for the unique experience of the restored Manship House. A slide presentation showing details of the restoration process is available for groups.

The public is invited to visit the Manship House. The hours are 9:00 a.m. until 4:00 p.m. Tuesday through Saturday and 1:00 p.m. until 4:00 p.m. on Sunday, closed on Monday. For information on tour reservations, contact the curator at (601) 961-4724. There is no admission.

Source: Mississippi Department of Archives and History.

INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS
[Seasonally Adjusted]
1969=100

Indicator	November 1981	October 1981	November 1980
Retail Sales	161.7	144.8	142.0
Electric Sales	190.8	203.3	185.3
Telephones in Service	231.4	231.2	226.3
Gasoline Gallonage	128.2	146.4	141.0
Loans of Savings & Loan Institutions	48.6	74.7	169.0

PRODUCTIVITY AND RELATED DATA, PRIVATE BUSINESS SECTOR IN UNITED STATES

Period	Output [1]		Hours of all persons [2]		Output per hour of all persons		Compensation per hour [3]		Unit labor costs		Implicit price deflator [4]	
	Private business sector	Nonfarm business sector	Private business sector	Nonfarm business sector	Private business sector	Nonfarm business sector	Private business sector	Nonfarm business sector	Private business sector	Nonfarm business sector	Private business sector	Nonfarm business sector
	1977=100; quarterly data seasonally adjusted											
1968	76.9	76.7	90.3	88.5	85.2	86.7	50.6	51.4	59.5	59.3	60.3	60.5
1969	79.2	78.9	92.7	91.3	85.4	86.4	54.2	54.8	63.5	63.4	63.3	63.4
1970	78.5	78.1	91.2	90.0	86.1	86.7	58.2	58.6	67.6	67.6	66.2	66.4
1971	80.9	80.4	90.7	89.7	89.2	89.6	62.0	62.5	69.5	69.7	69.1	69.4
1972	86.2	85.9	93.4	92.5	92.4	93.0	66.0	66.6	71.5	71.7	71.5	71.4
1973	92.0	91.9	97.0	96.4	94.8	95.3	71.3	71.7	75.2	75.2	75.3	74.1
1974	90.2	90.1	97.4	96.8	92.7	93.1	78.0	78.4	84.2	84.3	82.4	81.6
1975	88.5	88.1	93.4	92.7	94.8	95.0	85.5	86.0	90.2	90.5	90.4	89.9
1976	94.1	94.0	96.1	95.9	97.9	98.1	92.9	93.0	94.8	94.8	94.7	94.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.7	104.9	104.9	105.1	99.8	99.8	108.4	108.5	108.6	108.7	107.4	107.0
1979	107.7	107.7	108.2	108.7	99.5	99.1	119.3	119.0	119.9	120.0	116.9	116.2
1980	106.8	106.8	107.5	108.1	99.3	98.8	131.5	130.8	132.4	132.4	127.6	127.4
1979: III	107.7	107.8	108.4	109.0	99.4	98.9	120.7	120.2	121.4	121.5	118.1	117.4
IV	108.2	108.2	109.1	109.4	99.1	98.8	123.2	123.0	124.3	124.4	120.2	119.7
1980: I	108.7	108.5	109.2	109.8	99.5	98.9	[illegible]	126.0	127.0	127.4	123.0	122.9
II	105.4	105.1	106.4	107.1	99.1	98.2	130.1	129.4	131.3	131.8	126.1	126.3
III	105.7	105.8	106.3	106.9	99.4	99.0	133.1	132.3	133.9	133.6	129.1	128.8
IV	107.5	107.7	108.4	108.8	99.1	99.0	135.9	135.4	137.0	136.8	132.2	131.9
1981: I	109.5	109.7	109.2	109.7	100.3	100.0	139.7	139.1	139.4	139.1	135.4	135.3
II	109.5	109.4	108.3	109.0	101.1	100.4	143.2	142.4	141.6	141.9	137.5	137.5
III p	109.4	109.1	108.5	109.1	100.9	99.9	146.4	145.6	145.1	145.7	140.8	141.1

[1] Output refers to gross domestic product originating in the sector in 1972 dollars.

[2] Hours of all persons in private industry engaged in the sector, including hours of proprietors and unpaid family workers. Estimates based primarily on establishment data.

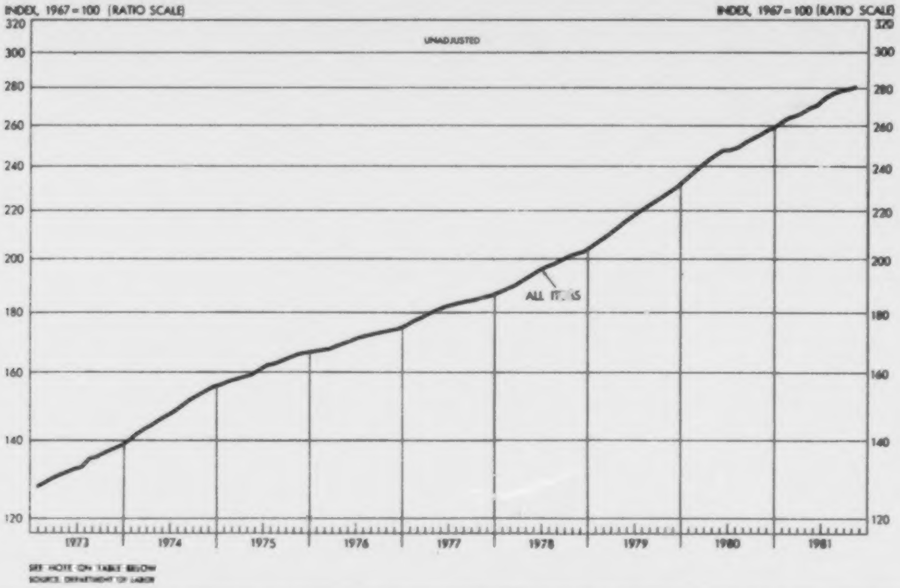
[3] Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.

[4] Current dollar gross domestic product divided by constant dollar gross domestic product.

Source: Department of Labor, Bureau of Labor Statistics.

CONSUMER PRICES IN THE UNITED STATES

In November, the consumer price index for all urban consumers rose 0.5 percent, seasonally adjusted (0.3 percent unadjusted). Food and beverage prices were up 0.2 percent, seasonally adjusted, and energy prices were down 0.2 percent, unadjusted.



SEE NOTE ON TABLE BELOW
SOURCE: DEPARTMENT OF LABOR

[1967=100; monthly data seasonally adjusted, except as noted]

Period	All items[1] NSA	Food and beverages	Housing			Apparel and upkeep	Transportation			Medical care	Energy[3] NSA	Services	All items less food, energy, and home purchase and finance[4]
			Total[1]	Home purchase NSA	Financing, taxes, and insurance NSA		Total[1]	New cars	Motor fuel[2]				
Rel. imp.[5]	*100.0*	*18.3*	*45.5*	*10.3*	*12.0*	*4.9*	*19.0*	*3.6*	*5.9*	*4.7*	*10.8*	*41.6*	*49.6*
1973	133.1	139.5	133.7	132.7	160.6	126.8	123.8	111.1	118.1	137.7	123.5	139.1	128.5
1974	147.7	158.7	148.8	142.7	181.1	136.2	137.7	117.5	159.9	150.5	159.7	152.1	138.5
1975	161.2	172.1	164.5	160.3	201.9	142.3	150.6	127.6	170.8	168.6	176.6	166.6	150.5
1976	170.5	177.4	174.6	168.4	212.8	147.6	165.5	135.7	177.9	184.7	189.3	180.4	160.8
1977	181.5	188.0	186.5	179.5	227.2	154.2	177.2	142.9	188.2	202.4	207.3	194.3	170.6
1978	195.4	206.3	202.8	196.7	257.8	159.6	185.5	153.8	196.3	219.4	220.4	210.9	180.9
1979	217.4	228.5	227.6	223.1	308.9	166.6	212.0	166.0	265.6	239.7	275.9	234.2	194.1
1980	246.8	248.0	263.3	254.3	396.0	178.4	249.7	179.3	369.1	265.9	361.1	270.3	211.6
1980: Nov.	256.2	260.2	274.1	267.3	416.9	182.8	259.9	183.5	373.6	274.6	366.1	281.5	219.1
Dec.	258.4	262.6	277.4	267.2	429.4	182.8	262.4	183.3	377.3	276.2	370.4	285.5	220.8
1981: Jan.	260.5	262.6	279.5	266.2	435.2	182.5	267.0	183.5	391.5	279.2	381.7	288.0	221.9
Feb.	263.2	263.4	281.3	263.0	437.1	184.0	273.4	183.3	417.5	281.7	401.1	290.3	223.7
Mar.	265.1	264.5	282.8	261.1	441.1	185.8	275.9	182.5	427.1	284.1	409.3	292.6	225.1
Apr.	266.8	264.5	284.8	260.7	447.1	186.1	275.7	185.7	421.0	286.6	409.8	295.4	226.9
May	269.0	263.9	288.4	263.0	458.3	185.7	276.5	190.1	414.8	289.1	411.3	299.6	228.3
June	271.3	264.5	291.7	266.6	467.2	185.8	277.2	192.2	408.7	292.1	414.0	303.1	229.9
July	274.4	266.7	296.5	271.4	480.0	186.8	279.4	193.3	404.8	295.9	415.7	308.5	232.6
Aug.	276.5	268.7	299.4	272.6	488.3	188.3	281.1	193.4	403.6	299.6	416.1	312.1	234.3
Sept.	279.3	271.3	303.3	274.5	501.8	189.4	284.4	194.6	[2] 405.8	302.2	417.1	316.9	236.7
Oct.	279.9	271.9	303.3	272.5	501.8	189.7	287.8	194.1	410.7	305.1	414.9	318.3	238.4
Nov.	280.7	272.5	304.6	270.2	505.6	189.3	290.2	194.5	412.8	308.3	414.1	321.0	239.7

[1] Includes items not shown separately.

[2] Includes direct pricing of diesel and gasohol beginning September 1981.

[3] Fuel oil, coal, and bottled gas; gas (piped) and electricity; and motor fuel, motor oil, coolant, etc.

[4] Estimated series. Finance includes financing, taxes, and insurance.

[5] Relative importance, December 1980.

NOTE.—NSA indicates data are not seasonally adjusted.

Data beginning 1978 are for all urban consumers; earlier data are for urban wage earners and clerical workers.

Source: Department of Labor, Bureau of Labor Statistics.

MEET THE FACULTY

G. Pepper Holland

Department of Management

G. Pepper Holland, Assistant Professor of Business Communication, came to Mississippi State University in 1949 from graduate school at the University of Wisconsin. She holds BA and MA Degrees in English from the University of Mississippi. She taught in the English Department at State until 1961 when she transferred to the College of Business. Now a faculty member of the Department of Management, she continues to teach communication theory, report writing and letter writing—all crowded into a single semester.

Mrs. Holland holds membership in the American Association of University Women, having served as Vice-President and Program Chairman of the State University Branch; and in the American Business Communication Association where she was elected to the Board of Directors in July, 1981, and became Vice-President, Southeast, in October, 1981. She is also a member of Phi Chi Theta, honorary business fraternity and serves as faculty advisor of Alpha Lambda Delta, a freshman honorary group.

Other professional activities include active participation in meetings of American Business Communications Association, including serving as chairperson on numerous committees and compiling and editing three of its **Casebooks**. She serves extensively in editing textbooks being written by members of the faculty both within the College of Business and within the University. Similarly, she has edited dissertations for a number of doctoral students in the Colleges of Engineering and Business. She published an article on communication in the **Mississippi Business Review**, and served as editorial consultant for a Memphis-based firm. Her professional activities include, also, assisting in preparing and editing several editions of the Southern Management Association's **Proceedings** and **Journal**.

Professor Holland's committee assignments have included the University Press Committee for the University and College Press of Mississippi; the Discipline and Faculty Awards Committees of Mississippi State University; and the Social Affairs Committee of the College of Business.

To parallel this busy schedule she has found time to raise two daughters: Barbara, who is in the emergency medical service and lives with her husband in New Albany, and Melissa, who lives in Washington and is employed at the American Institutes of Research. Now that her children are no longer at home, Mrs. Holland uses her spare time for reading, working in the yard and caring for her many, many houseplants.

MEET THE FACULTY

Dr. Flavous Leo Hutchinson

Department of Business Statistics and Data Processing

Born August 5, 1923 near Brice's Cross Roads in Lee County, Mississippi, Dr. Flavous Leo Hutchinson, Professor of Business Law at Mississippi State University, is the only son of Lawrence E. Hutchinson and Rennie Lee Bates Hutchinson, native Mississippians and descendents of early colonial families in America. His sister, Avous, is married to Leslie Dodson, formerly of Columbus, Mississippi.

Dr. Hutchinson has been married for 35 years to the former Mamie Ruth Sullivan, daughter of the late Joseph Patrick Sullivan and Minnie Smith Sullivan, also of Lee County, Mississippi. The Hutchinsons have four children,Richard, Flavia, Pat and Chris.

Flavia, a second year medical student at the University of Mississippi Medical Center in Jackson, is an M.S.U. graduate and married to another M.S.U. graduate, James F. West, C.P.A., of Tupelo. Chris is a junior in the College of Business at M.S.U.

Dr.Hutchinson received his LL.B, M.Ed. and J.D. degrees from the University of Mississippi. Prior to coming to MSU in 1958, he taught law in the Law School at Valparaiso University in Northern Indiana.

He is a former editorial advisor to the **Mississippi Business Review**, and the author of several articles on law. He is in demand as a consultant in the fields of taxation, commercial transactions, and estate planning.

He is a member of Phi Kappa Phi, the American Bar Association, and the Mississippi Bar Association. He has served as President, Vice-President, and Secretary of the South Central Business Law Association. He is currently a member of the Litigation Section of the American Bar Association, and was recently named to the Ethics Committee of the Lee County Bar Association.

Dr. Hutchinson has been admitted to practice before the State Courts of Mississippi, the United States Tax Court, the Federal District Court, and the United States Court of Appeals for the Fifth Circuit.

In 1968 he was chosen an Outstanding Educator of America.

Much of Dr. Hutchinson's spare time is spent in the study of medieval English history, especially that which relates to the origin and development of the Common Law. The first great treatise on the Common Law is credited to the efforts of Ranulph de Glanville, Chief Justiciar and Vice-roy of King Henry II (1154-1189). This treatise has special meaning for Dr. Hutchinson. Glanville was an ancestor.

STATE ECONOMIC INDICATORS

Indicator	November 1981[1]	October 1981[2]	November 1980[2]	Per Cent Change	
				One Month Ago[3]	One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	1,020,000	1,024,800	1,024,300	— 0.5	— 4.2
Non-Ag Employment	821,200	825,100	837,200	— 0.5	— 1.9
Mining	11,100	11,100	10,900	0.0	1.8
Contract Construction	40,000	40,700	44,000	— 1.7	— 9.1
Manufacturing	214,900	219,100	220,800	— 1.9	— 2.7
Transportation and Public Utilities	41,500	41,600	41,900	— 0.2	— 1.0
Wholesale and Retail Trade	167,300	166,000	167,000	0.8	0.2
Finance, Insurance and Real Estate	33,100	33,100	32,900	0.0	— 0.6
Service	123,600	123,900	122,600	0.2	— 0.8
Government	189,600	189,500	197,000	0.1	— 3.7
Unemployment Rate (Per Cent Labor Force)	9.0	8.2	7.3	——	——
Average Weekly Earnings in Manufacturing (Dollars)	240.47	240.73	223.51	0.1	7.6
Average Hourly Earnings in Manufacturing (Dollars)	6.15	6.11	5.63	0.7	9.2
Average Weekly Hours in Manufacturing	39.1	39.4	39.7	— 0.8	— 1.5
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,887	2,787	3,030	3.6	— 4.7
Gasoline Delivered to Dealers (gals.)[6]	104,331	109,948	115,283	— 5.1	— 9.5
Dairy Production					
Milk (lbs.)[7]	64,000	66,000	60,000	— 3.0	6.7
Egg Production (No. eggs)[7]	141,000	141,000	134,000	0.0	5.2
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[8]	7,800	12,500	12,800	—37.6	—68.0
Construction Loans	300	600	4,100	—50.0	—92.7
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[9]	1,544,495	1,683,149	1,560,479	— 8.2	— 1.0
Telephones in Service (Number)[10]	1,534,973	1,533,693	1,501,187	0.0	2.3
RETAIL SALES ($000's)[11]	1,453,976	1,261,705	1,138,034	15.2	27.8

Indicator	August 1981	July 1981	August 1980	Per Cent Change	
				One Month Ago	One Year Ago
AGRICULTURE ($000's)[12]					
Total Cash Receipts from Farm Marketings	112,084	123,022	93,367	— 8.9	13.9
Cash Receipts from Marketing Livestock	83,107	79,605	70,646	4.4	17.6
Cash Receipts from Marketing Crops	28,977	43,417	27,721	—33.2	4.6

[1] Preliminary

[2] Revised

[3] Percent change calculated with revised figures; not comparable with previously published data.

[4] Mississippi Employment Security Commission

[5] State Oil and Gas Board for July

[6] Mississippi Motor Vehicle Comptroller

[7] Mississippi Crop and Livestock Reporting Service

[8] Federal Home Loan Bank of Little Rock

[9] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority

[10] South Central Bell Telephone Company

[11] Mississippi Tax Commission

[12] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month November	Month Ago	Year Ago	Current Month November	Month Ago	Year Ago	Current Month November	Month Ago	Year Ago
Aberdeen	1.2	84.3	8,430	0.2	3.4	43,458	4.5	14.6	95,540	82,100	42,700
Baldwyn	5.5	56.9	4,796	0.3	2.2	20,799	14.6	27.4	——	——	——
Batesville	——	——	9,339	0.3	5.0	53,666	7.7	11.8	15,000	28,600	127,591
Bay Springs	——	——	——	——	——	23,025	16.2	— 3.0	——	——	——
Bay St. Louis	——	——	14,167	0.4	3.8	31,203	— 2.7	24.8	——	248,925	307,900
Belmont	0.6	——	2,399	—0.1	4.3	10,103	— 1.7	7.9	——	——	——
Belzoni	——	——	5,172	—0.1	4.3	32,358	— 1.8	23.6	2,500	19,300	61,000
Biloxi	——	——	46,492	0.1	2.2	251,651	10.2	31.8	1,049,563	568,770	6,807,769
Brandon	——	——	11,386	—0.2	—3.8	35,211	— 3.5	58.3	207,000	——	330,110
Brookhaven	39.1	3.9	16,176	0.3	1.1	110,980	6.3	26.7	111,620	21,700	147,000
Brooksville	——	——	1,313	0.2	—1.4	2,615	—22.7	— 5.0	——	——	——
Canton	——	——	11,132	0.1	3.1	59,020	19.0	7.6	——	——	——
Carthage	——	——	7,532	0.2	0.4	40,142	6.4	10.4	——	——	——
Charleston	——	——	4,263	0.5	1.9	28,806	272.7	91.7	——	——	——
Clarksdale	3.5	20.7	20,792	—0.1	—1.2	122,846	13.2	25.8	99,700	181,812	152,900
Cleveland	——	——	14,021	0.1	1.2	94,319	—12.5	20.4	——	——	——
Collins	——	——	4,748	0.7	2.2	34,298	— 1.2	0.9	——	72,000	——
Columbia	——	——	16,364	0.4	3.2	82,460	3.6	19.0	——	——	——
Columbus	——	0.7	34,186	0.0	0.9	214,029	2.2	13.7	361,897	308,913	301,792
Corinth	—11.9	13.8	21,148	0.2	1.3	111,934	10.9	25.3	3,623,530	168,513	103,425
Crystal Springs	——	——	6,032	0.5	2.3	20,111	—14.5	— 1.8	46,000	5,000	84,300
Drew	0.4	6.2	2,913	2.2	6.3	10,186	6.0	— 9.1	24,000	2,000	25,000
Edwards	— 7.9	81.9	1,740	0.4	0.4	3,497	— 5.1	—13.3	46,120	——	5,000
Ellisville	7.6	20.4	4,143	0.2	0.4	15,662	—13.5	27.0	——	——	——
Eupora	4.2	— 6.7	4,503	0.6	2.3	16,295	4.7	4.2	——	——	——
Fayette	4.0	15.2	3,379	0.8	2.0	6,507	—31.8	5.3	——	——	——
Forest	——	——	5,154	0.3	1.1	46,245	— 8.2	— 3.7	17,500	——	1,200
Greenville	1.8	4.5	37,365	0.0	1.1	247,766	6.3	25.3	——	——	——
Greenwood	——	——	24,042	0.2	—0.2	152,812	—11.5	12.1	2,527,000	24,800	184,800
Grenada	——	——	14,501	0.2	1.3	77,168	— 1.9	15.8	116,000	46,000	394,000
Gulfport	——	——	63,694	0.3	2.7	243,376	— 1.6	21.1	11,031,298	423,569	393,033
Hattiesburg	——	——	61,716	—0.2	2.0	345,927	1.4	19.7	425,895	4,987,344	1,214,194
Hernando	— 1.5	——	7,443	0.0	2.4	21,639	—14.8	7.3	——	11,900	3,500
Hollandale	50.3	88.0	3,410	0.2	1.6	12,146	— 8.2	12.2	——	16,780	49,389
Holly Springs	——	——	7,737	0.8	3.2	42,170	7.7	27.4	——	——	85,000
Houston	——	——	5,739	0.1	1.9	27,786	8.5	35.9	45,400	186,000	202,500
Indianola	— 8.7	—30.1	7,861	1.1	—0.1	72,640	18.1	25.3	——	——	——
Iuka	——	——	5,816	0.0	2.2	27,218	— 9.4	3.3	——	——	——
Jackson	——	——	231,977	—0.0	2.6	1,393,922	— 0.7	18.7	5,038,593	25,765,861	7,134,475
Kosciusko	— 6.4	21.1	9,512	—0.4	0.0	50,737	—18.5	6.6	114,500	67,200	62,750
Laurel	— 8.0	10.9	36,189	0.0	3.9	352,317	0.9	35.5	216,524	858,244	412,245
Leland	——	——	5,365	0.5	2.5	21,484	11.9	— 1.2	57,570	644,714	70,800
Lexington	——	——	4,966	0.2	3.1	19,020	—10.0	4.2	——	——	——
Louisville	—10.0	— 7.0	10,850	0.3	2.0	46,369	— 2.8	10.8	46,500	333,960	29,350
Lucedale	——	——	8,664	0.2	3.2	33,489	1.4	18.0	82,500	72,000	40,900
Lumberton	——	——	3,001	0.3	2.8	8,736	8.0	42.3	——	——	——
Macon	4.5	——	3,781	0.0	0.5	15,813	14.5	13.2	——	——	——
Magee	——	——	5,520	0.1	3.9	39,289	— 4.5	20.2	——	——	——
Magnolia	——	——	4,398	0.3	2.6	9,347	3.0	10.0	17,000	27,000	——
Marks	——	——	5,513	—0.3	0.0	13,284	—23.6	—15.7	——	——	——
McComb	——	——	20,408	0.4	2.4	120,765	— 3.2	22.9	160,365	165,400	132,4[illegible]0
Meadville	13.5	7.9	——	——	——	5,335	20.1	25.7	34,500	——	—
Mendenhall	—33.7	—12.2	6,736	0.3	3.7	16,741	—13.6	— 4.4	——	——	—
Meridian	——	——	47,976	—0.4	—0.5	335,706	12.3	13.9	1,217,096	388,828	1,165,80
Monticello	—20.6	—11.9	5,050	—0.1	3.1	19,643	6.6	40.2	144,500	——	——
Morton	—19.7	—21.1	3,629	—0.4	2.5	19,943	18.7	35.2	——	——	——
Moss Point	——	——	16,648	0.3	2.5	44,985	2.0	17.2	149,450	119,517	140,570
Natchez	——	——	30,904	0.4	3.1	232,681	8.3	26.9	124,564	340,735	100,724
New Albany	0.7	18.3							111,500	119,500	2,519,000
Newton	——	—25.4	4,195	0.4	2.2	22,358	— 0.8	15.3	121,572	23,620	35,640
Ocean Springs	——	——	16,176	—0.2	1.5	72,349	13.5	33.3	——	——	——
Okolona	— 1.7	11.1	3,505	0.0	1.6	14,599	21.4	35.7	——	——	——
Oxford	——	——	21,817	0.2	0.0	88,315	5.6	16.4	94,100	814,750	780,191
Pascagoula	——	——	37,049	0.3	5.3	187,857	0.2	18.4	——	309,064	221,507
Pass Christian	——	——	5,782	0.2	3.9	12,004	23.3	31.9	108,740	41,930	136,417
Philadelphia	——	——	11,983	0.2	3.5	54,536	8.0	29.0	——	——	——

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month November	Month Ago	Year Ago	Current Month November	Month Ago	Year Ago	Current Month November	Month Ago	Year Ago
Picayune	——	——	16,295	0.2	5.0	78,211	— 2.2	31.8	121,000	271,000	332,000
Pontotoc	8.1	1.3	9,622	0.2	1.8	38,732	4.2	20.0	——	——	——
Poplarville	——	——	4,323	0.4	3.9	20,477	21.0	65.6	32,500	239,000	42,000
Port Gibson	—11.9	2.6	6,019	0.8	4.3	15,521	3.5	6.1	——	——	——
Prentiss	——	——	——	——	——	21,060	16.3	35.9	225	5,100	68,100
Quitman	—54.8	——	5,044	0.3	1.9	22,991	—16.2	11.2	——	——	——
Raymond	9.3	25.8	3,330	—0.5	4.3	4,787	18.9	50.0	——	——	——
Richton	——	——	1,975	—0.9	—1.6	10,533	17.3	12.5	——	——	4,500
Rosedale	——	——	1,593	—0.3	—1.9	7,243	3.7	15.2	——	——	——
Ruleville	28.8	2.5	1,938	0.3	—1.4	10,871	—15.1	0.1	47,000	13,400	5,500
Sardis	——	——	3,490	—0.5	—0.1	14,502	—19.3	— 2.1	——	31,000	——
Senatobia	27.6	48.2	7,035	0.1	4.5	39,330	6.0	16.2	6,000	1,630,000	134,550
Shelby	——	——	1,629	—0.1	—0.6	11,125	7.3	5.8	——	——	——
Starkville	——	——	25,631	0.1	1.8	99,614	3.8	16.5	245,630	373,274	648,000
Summit	——	——	1,724	0.1	4.0	9,505	5.0	20.6	——	——	——
Taylorsville	5.1	19.2	1,819	—0.2	1.8	11,739	22.7	11.3	——	——	——
Tchula	——	——	2,000	—0.2	—1.7	3,827	—21.5	—17.6	——	——	——
Tunica	——	——	4,275	0.2	—0.5	17,618	22.7	18.6	——	——	——
Tupelo	—14.5	26.1	38,433	0.1	1.8	298,411	9.6	15.8	230,060	347,955	482,185
Union	—12.3	— 3.0	2,898	0.5	5.3	12,758	0.9	12.1	——	——	——
Utica	——	——	3,153	0.5	4.9	10,377	— 9.9	41.0	——	——	——
Vicksburg	——	——	39,579	—0.7	1.2	197,569	14.4	31.8	453,175	191,605	807,320
Walnut Grove	——	——	1,061[1]	0.8	2.3	1,702	4.4	42.1	——	——	——
Water Valley	——	——	4,282	—0.1	5.6	21,088	—11.8	4.4	——	——	——
Waynesboro	——	——	7,973	0.1	3.8	59,470	— 4.1	3.1	——	——	——
West Point	— 0.6	8.9	12,648	0.1	2.6	55,421	18.8	30.9	42,025	47,689	157,500
Wiggins	— 2.8	10.1	6,364	0.4	0.8	22,652	0.7	25.1	27,000	26,500	30,000
Winona	— 5.0	7.3	5,006	—0.8	0.2	28,874	3.9	2.3	——	32,650	——
Yazoo City	—12.8	—22.3	12,704	0.4	2.3	70,913	15.9	24.1	22,500	3,500	129,000

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON [Hinds and Rankin Counties]	November 1981	October 1981	November 1980	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	152,500	151,400	153,600	0.7	— 0.7
Unemployed Persons	10,100	9,700	8,000	4.1	26.3
Per Cent of Labor Force	6.6	6.4	5.2	——	——
Employed Persons	142,400	141,700	145,600	0.5	— 2.2
Non-Ag Wage & Salaries	123,700	122,400	126,600	1.1	— 2.3
Manufacturing	17,100	17,000	17,400	0.6	— 1.7
TELEPHONES IN SERVICE	251,586	251,627	245,754	0.0	2.4
CITY SALES TAX COLLECTIONS	1,447,794	1,459,060	1,210,833	—0.8	19.6

BILOXI-GULFPORT [Hancock, Harrison and Stone Counties]	November 1980	October 1981	November 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	65,240	64,700	64,480	0.8	1.2
Unemployed Persons	4,690	4,540	4,160	3.3	12.7
Per Cent of Labor Force	7.2	7.0	6.5	——	——
Employed Persons	60,550	60,160	60,320	0.6	0.4
Non-Ag Wage & Salaries	51,820	51,290	51,660	1.0	0.3
Manufacturing	8,300	8,250	8,220	0.6	1.0
TELEPHONES IN SERVICE	115,968	115,693	113,051	0.2	2.6
CITY SALES TAX COLLECTIONS	507,031	485,604	401,048	4.4	26.4

[1] Preliminary

Employment Covered by the Employment Security Law by County

Source: Mississippi Employment Security Commission. Compilations by the Division of Business Research, Mississippi State University.

County	1979	% of State	% of Change	1980	% of State	% of Change
Adams	14,653	1.87	3.57	15,005	1.94	2.40
Alcorn	12,881	1.65	1.33	12,032	1.56	— 6.59
Amite	2,028	0.26	1.00	2,041	0.26	0.64
Attala	4,630	0.56	— 0.94	4,502	0.58	— 2.76
Benton	849	0.11	— 4.61	895	0.12	17.20
Bolivar	11,573	1.48	7.99	11,366	1.47	— 1.79
Calhoun	3,649	0.47	0.44	3,534	0.46	— 3.15
Carroll	906	0.12	6.97	948	0.12	4.64
Chickasaw	7,029	0.90	1.74	6,847	0.89	— 2.59
Choctaw	1,972	0.25	4.45	1,893	0.24	— 4.01
Claiborne	6,914	0.88	10.94	5,808	0.75	—16.00
Clarke	4,388	0.56	1.13	4,479	0.58	2.07
Clay	7,036	0.90	4.07	6,989	0.90	— 0.67
Coahoma	10,749	1.37	12.44	9,911	1.28	— 7.80
Copiah	6,171	0.79	7.96	6,117	0.79	— 0.88
Covington	3,596	0.46	17.52	3,539	0.46	— 1.59
DeSoto	10,533	1.35	— 0.61	10,944	1.42	3.90
Forrest	26,117	3.34	2.21	27,282	3.53	4.46
Franklin	1,282	0.16	3.55	1,334	0.17	4.06
George	2,275	0.29	4.36	2,427	0.31	6.68
Greene	1,381	0.18	2.37	1,254	0.16	— 9.20
Grenada	8,145	1.04	— 0.20	7,816	1.01	— 4.04
Hancock	4,909	0.63	6.28	5,401	0.70	10.02
Harrison	41,146	5.26	9.53	42,637	5.51	3.62
Hinds	118,020	15.09	4.65	117,808	15.24	— 0.18
Holmes	4,287	0.55	4.46	4,380	0.56	2.17
Humphreys	2,573	0.33	4.17	2,728	0.35	6.02
Issaquena	181	0.02	— 5.24	210	0.03	16.02
Itawamba	4,839	0.62	7.84	4,634	0.60	— 4.24
Jackson	40,331	5.16	—14.70	29,082	5.05	— 3.10
Jasper	2,918	0.37	5.46	2,951	0.38	1.13
Jefferson	1,240	0.16	— 6.77	1,215	0.16	— 2.02
Jeff Davis	1,968	0.25	4.13	1,924	0.25	— 2.24
Jones	20,172	2.58	1.65	20,360	2.63	0.93
Kemper	1,322	0.17	— 2.07	1,342	0.17	1.51
Lafayette	9,055	1.16	— 6.99	9,020	1.17	— 0.39
Lamar	3.265	0.42	2.29	3,156	0.41	— 3.34
Lauderdale	26,164	3.35	4.68	25,456	3.29	— 2.71
Lawrence	2,560	0.33	6.44	2,626	0.34	2.58
Leake	3,646	0.47	5.25	3,758	0.49	3.07
Lee	30,082	3.85	2.39	29,217	3.78	— 2.88
Leflore	[illegible],429	[illegible]	—30.[illegible]	13,09[illegible]	1.69	[illegible] 0.77
Linc[illegible]	[illegible],067	[illegible]	[illegible]	[illegible]	0.9[illegible]	6.77
Lowndes	20,246	2.59	2.47	19,654	2.54	— 2.92
Madison	7,772	0.99	4.90	8,050	1.04	3.58
Marion	6,592	0.84	2.26	6,568	0.85	— 0.36
Marshall	4,969	0.64	5.05	4,975	0.64	0.12
Monroe	10,485	1.34	— 1.65	10,762	1.39	2.64
Montgomery	2,759	0.35	— 3.77	2,794	0.36	1.27
Neshoba	6,344	0.81	1.83	6,635	0.86	4.59
Newton	4,921	0.63	1.30	4,657	0.60	— 5.36
Noxubee	2,430	0.31	9.41	2,285	0.30	— 5.97
Oktibbeha	10,239	1.31	2.72	10,472	1.35	2.28
Panola	7,106	0.91	2.50	6,840	0.88	— 3.74
Pearl River	6,010	0.77	9.81	5,923	0.77	— 1.45
Perry	1,870	0.24	8.16	1,795	0.23	— 4.01
Pike	10,394	1.33	4.38	10,033	1.30	— 3.47
Pontotoc	5,279	0.68	— 0.17	4,991	0.65	— 5.46
Prentiss	6,353	0.81	1.53	6,029	0.78	— 5.10
Quitman	2,355	0.30	— 1.01	2,531	0.33	7.47
Rankin	17,567	2.25	8.94	18,217	2.36	3.70
Scott	7,928	1.01	6.92	7,893	1.02	— 0.44
Sharkey	2,192	0.28	2.19	2,234	0.29	1.92
Simpson	6,300	0.81	8.64	5,822	0.75	— 7.59
Smith	3,180	0.41	0.86	3,200	0.41	0.63
Stone	3,207	0.41	7.62	2,654	0.34	—17.24
Sunflower	8.797	1.12	6.69	8,847	1.14	0.57
Tallahatchie	2,674	0.34	— 0.15	2,903	0.38	8.56
Tate	4,405	0.56	11.07	4,476	0.58	1.61
Tippah	5,366	0.69	10.00	5,492	0.71	2.35
Tishomingo	5,566	0.71	6.18	6,255	0.81	12.38
Tunica	2,010	0.26	6.63	2,073	0.27	3.13
Union	5,977	0.76	— 0.32	6,434	0.83	7.65
Walthall	2,352	0.30	— 0.93	2,361	0.31	0.38
Warren	15,274	1.95	2.09	15,300	1.98	0.17
Washington	24,115	3.08	5.78	23,582	3.05	— 2.21
Wayne	4,315	0.55	8.34	4,274	0.55	— 0.95
Webster	2,700	0.35	6.30	2,563	0.33	— 5.07
Wilkinson	2,158	0.28	4.25	2,221	0.29	2.92
Winston	5,312	0.68	3.43	4,926	0.64	— 7.27
Yalobusha	3,584	0.46	7.60	4,032	0.52	12.50
Yazoo	6,167	0.79	5.98	6,331	0.82	2.66
Oth[illegible]	33,8[illegible]	4.33	3.04	[illegible],795	[illegible]	— [illegible]
St[illegible]otal	78[illegible]	[illegible]	3.0[illegible]	[illegible],163	[illegible]	—[illegible]

MAR 1 6 1982. U 3255-2

MISSISSIPPI BUSINESS REVIEW

[illegible] $3.50

Second Class Postage Paid at
Mississippi State, Mississippi 39762

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Return Postage Guaranteed

BEST AVAILABLE COPY

Dr. Hollman

Dr. Shull

Dr. Boyet

Dr. Taylor

Dr. Hollman is a Professor of Economics and Chairholder, Tommy W. Martin Chair of Insurance, Middle Tennessee State University. He received a B.S. degree from Middle Tennessee State University, and an M.B.A. and a Ph.D. degree from the University of Alabama.

Dr. Shull is a Professor of Economics at the University of Mississippi. He received his bachelor's degree from Bridgewater College, his master's from the University of Virginia, and his doctoral degree from Cornell University.

Dr. Boyet is a Professor of Economics at the University of Mississippi. He received his B.S.degree from Louisiana State University, his M.S. and Ph.D. from North Carolina State University.

Dr. Taylor is a Professor of Accountancy at the University of Mississippi. He received his Ph.D. Degree from the University of Texas at Austin.

TABLE OF CONTENTS

A Profile of Water Systems in Mississippi 3
Indexes of Selected Miss. Economic Indicators 9
New and Expanded Industry 9
Optimization of the Advertising Budget Allocated to Recruitment 10
Tourist Brief 13
Civil War Short 14
Meet the Faculty - Herring 15
Meet the Faculty - O'Neill 16
State Economic Indicators 17
Business Activity By City 18
SMSA 19
Motor Vehicle Registration by County 20

VOLUME XLIII **FEBRUARY, 1982** **NUMBER 8**

James D. McComas, Ph.D.
President, Mississippi State University
Gaines M. Rogers, Ph.D.
Dean, College of Business and Industry
Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing
Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics

Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics

Louis M. Capella, D.B.A.
Editorial Advisor

Orris L. Odom, II, Ph.D.
Editorial Advisor

Gary A. Williams, D.B.A.
Editorial Advisor

Donna M. Reddish
Assistant Editor

Dale Adams
Secretary

Diane Dendy
Secretary

Sadia Al-Jibouri, M.B.A.
Research Assistant

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

Association for University Business and Economic Research
AUBER
MEMBER

A Profile of Water Systems in Mississippi[1]

By

Kenneth W. Hollman, S. Cabell Shull,
Wayne E. Boyet, and Charles W. Taylor

INTRODUCTION

Economics in the past have paid relatively little attention to commercial considerations of water systems which provide services to residential consumers and other users. This is as true in Mississippi as in other states. A much greater emphasis has been placed on the economic aspects of controlling floodwaters and industrial pollution and on the problems of agricultural irrigation and run-off. This inattention seems rather unusual, since water is not only essential to life itself but is required at some point, in one form or another, in virtually all production processes. As a service, water clearly compares in importance with electricity, gas, and other services which have been more intensively studied. The reasons for the neglect of the problems of water supply stem in part from the seeming abundance of water relative to demand, from the small part of consumers' total expenditure constituted by water bills, and from the fact that engineering and public health considerations have taken priority over commercial considerations in water supply industry operations.

There are particular problems which suggest a need for further study of commercial considerations to insure the conservation of water in Mississippi. In some portions of the state, the withdrawal of groundwater has at times reached critically high levels due to agricultural irrigation and residential use, and increasing demand threatens to surpass the naturally renewable supply. Along the Gulf Coast, concentrated groundwater withdrawl is causing salt water to intrude into aquifers. In other areas of the state, particularly in the more densely populated areas, there are acute problems of finding adequate supplies to meet combined residential, industrial, commercial, agricultural, and recreational needs. With a growing economy and population, the competitive use of water resources will likely become more intensified in the future.

As the competition for clean water becomes more urgent, the judicious use of this valuable resource becomes more important. The purpose of this study was to fill the gap in the literature concerning the characteristics of water systems in the State of Mississippi, including physical aspects and legal organization, rate schedules, source and cost of water, and other commercial considerations. Findings of the study should be of interest to water supply managers; federal, state, and local regulatory authorities and policy makers; industrial developers; business, labor, and civic improvement groups; and to others who are interested in the orderly growth of the water supply industry in Mississippi. If water systems in other states are similar to those in Mississippi, the analysis should be of general interest and have significance beyond the immediate scope of this study.

PROCEDURES

A survey questionnaire forwarded to approximately 400 public water systems in Mississippi formed the informational base for this study. The names of the water firms which received copies of the questionnaire were supplied by the Mississippi State Board of Health. A total of 163 firms or 40 percent of the systems returned the form after two mailings. This was a sufficient number upon which to base the statistical inferences which are noted below.

The questionnaire was designed to provide in-depth information on each water system. Firms receiving the 11-page form were asked to provide data pertaining to population served and to the sources and economic costs of water supplied, and to forward financial statements for 1979-80 and a copy of the current water rate schedule. The data are of a general nature and are helpful in profiling the industry, as well as in providing background information against which the growth of water systems in Mississippi can be measured in the future.

RESULTS AND DISCUSSION

The results of the survey are discussed below. Every effort was made to word the questions in the survey instrument in such a way as to apply to a large majority of systems receiving it. The systems vary greatly in size, however, and they differ markedly in degree of sophistication of accounting procedures and methods of recordkeeping and reporting. As a result, the replies were not always in the form best suited for comparison. Acçordingly, requests for further information were forwarded to several systems. In addition, an effort was made to convert some of the data into a more usuable form. The errors resulting from these computations are, hopefully, very minor.

Size. The water supply industry in Mississipi is dominated by small systems, regardless of the measure used to express size. The number of customers served is one of the most commonly used measures of size of water systems. The table below shows the breakdown of respondents by customer size categories:

	Systems	
Number of Customers	Number	Percent of Total
Under 100	13	8.1
100 - 249	33	20.6
250 - 499	47	29.4
500 - 999	29	18.1
1,000 - 2,999	23	14.4
2,000 and over	15	9.4

These data show that about 58 percent of the water systems had fewer than 500 customers, and that less than 24 percent had more than 1,000 customers. The mean[2] number of customers of systems responding to the survey was 1,215 while the median[3] was 391. The largest system served 15,300 customers and the smallest had only 23.

Another measure of water system size is miles of distribution mains. This item is important because distribution lines account for a major part of the total investment of most systems. Many systems in Mississippi have experienced residential growth sprawled over relatively large areas, resulting in a need for new and expense distribution facilities. The results of the survey using distribution main mileage as a measure of size are shown below:

	Systems	
Miles of Distribution	Number	Percent of Total
Fewer than 5	17	13.2
5-15	46	35.7
16 - 30	28	21.7
31 - 100	27	20.9
More than 100	11	8.5

A third measure of size of water firms used in this study was number of gallons pumped. This measure also has important implications for cost because it is an important element in several cost items for a water system: lifting costs, cleaning or purification costs, and distribution costs. The volume produced by the systems reporting this item amounted to 67.1 billion gallons in 1980, for a mean of 323.1 million gallons per system. The range was from 78,000 gallons to 6.4 billion gallons.

The concentration of smaller systems noted here is partially a result of funding made available to small water supply systems by the Farmers Home Administration. Many of these systems provide water to rural areas or to villages and small towns. The result of federal funding is an increase in the number of water systems in Mississippi, and in increase in the number of people in the state who have an adequate supply of clean and potable water for residential and other uses which is not dependent upon individual wells.

Legal Organization. Water firms returning the questionnaire had several forms of legal status, that is, methods of ownership. Two-thirds of the systems indicated that they were owned and controlled by a government while the remainder were cooperatives (21 percent) and public or private corporations (12 percent).

Over 68 percent of the systems which classified themselves as private or public corporations had fewer than 500 customers. These systems usually serve either small towns and villages or widely dispersed rural communities. On the other hand, systems classifying themselves as part of a local government or as a public corporation ran the gamut in terms of size. However, the larger communities and municipalities tend to be served by water systems which are owned by the local government.

Source of Water. The source from which a water system draws its water is another factor affecting cost in that system. It is usually presumed that utilities drawing their water supply from surface sources have lower supply costs than firms relying on ground sources. They are therefore considered to be more efficient, other things held equal. However, firms that use surface water usually incur some costs which those firms relying on groundwater do not. These costs include the cost of land acquisition, the capital outlay for constructing the impoundment, and the cost of constructing and operating treatment facilities. Thus, while surface water is usually considered to be less expensive than groundwater, this cost advantage may be reduced or offset if impoundment costs are excessive or if the surface water requires extensive treatment.

It is of particular interest to note that almost all of the systems returning the survey instrument use groundwater. Over 91 percent of the respondents reported that they use groundwater as opposed to purchasing water from another utility, to using some combination of groundwater and purchases from another system, or to using other sources such as surface water. This dependence on groundwater was noted for every customer size category. However, smaller firms are far more likely to purchase water from another utility than are larger ones. Of the 11 firms using water supplied by another system, all served less than 500 customers.

Pricing. It is a commonly accepted idea that financial problems are not usually the primary concern of water system managers. They are typically more interested in water production and distribution problems than in the economic aspects of rendering services to users. In addition, they seldom have the expertise or take the necessary time to determine whether the pricing policy of the system is reasonable or if it discriminates between customers. For this reason and others, pricing policies in many Mississippi water systems are not determined through the use of generally accepted economic principles. The primary consideration is to develop a rate schedule which generates sufficient revenue to meet current costs and to make debt payments.

The methods used to price water constitute an interesting part of this study about the Mississippi water supply industry. Systems use an amalgam of pricing structures, most of which are designed to provide water at low cost but not to conserve this vital resource. There is also great variation in actual prices charged for water among the systems reporting this item.

A breakdown of the methods used to price water and the percentage of respondents using each method is shown below:

	Systems	
	Number	Percent of Total
Method of Pricing		
Block rate	101	69.7
Fixed charge per month	15	10.3
Fixed charge per gallon	29	20.0

These data show that over two-thirds of the systems use the traditional declining block rate pricing structure to price their water instead of a fixed charge on a per-month or a per-gallon basis. In effect, therefore, most systems charge a minimum price for utilization up to a specified number of gallons, and beyond that they assess a charge per 1,000 gallons for excess blocks of consumption that decreases with successive blocks. This method of pricing, because of the decreasing price for successive block consumption, has the effect of promoting heavy water use.

It is also instructive to look at the actual prices which systems charge for the water they produce. For the purpose of this study, the price charged for an arbitrarily selected consumption level — 10,000 gallons—was computed from rate schedules provided by respondents. The price charged per 10,000 gallons of use by a residential customer is shown below:

	Systems	
Price for 10,000 Gallons	Number	Percent of Total
$0 to $4.99	7	5.1
$5.00 to $7.99	27	19.7
$8.00 to $9.99	37	27.0
$10.00 to $11.99	29	21.2
$12.00 to $14.99	24	14.7
$15.00 and up	13	9.5

These data show that seven out of ten of the respondents charge less than $10.00 for 10,000 gallons of water. The mean charge for 10,000 gallons was $10.13 and the median charge was $9.80. The range was from $1.50 to $18.00.

A closer look at the data reveal several interesting characteristics of the pricing policies of firms returning the survey instrument. First, systems using fixed monthly charges to price their water tended to charge less for 10,000 gallons than did those systems using a given cost per gallon or the block rate method. Over 70 percent of the systems charging less than $5.00 for 10,000 gallons used a monthly rate. For all pricing categories above the $5.00 category, the block rate was more common.Over 80 percent of the systems charging $10.00 or more for 10,000 gallons used the block rate, while the remainder of the systems charging $10.00 or more used a fixed charge per gallon.

Two other characteristics become evident when pricing policy is analyzed by size of system. First, there is a greater variability in customers' charges for the 10,000 gallon base quantity among the smaller systems than among the larger systems. Second, there is a general tendency for the price of the base quantity to decline with system size.

Several factors may jointly account for these findings. First, the larger systems may experience economies of scale because of the larger number of gallons pumped, enabling them to spread fixed costs over a larger production level. Second, the smaller systems are more likely to be privately owned, and the owner must charge a price that is large enough to cover taxes on the income he receives. Third, the proprietor of the privately owned system must include a margin for profit when he devises a rate schedule.

The data provided by the respondents to the questionnaire suggest that the pricing policy in Mississippi water systems is rather haphazard. This may be explained in part by the cost structure of the industry along with firm to firm variation in that cost structure which is due to differences in firm age. It is a characteristic of the water industry that the capital investment in reservoirs, filters, mains, and the like usually forms a large part of total colsts. If consumption increases beyond a certain point, extra supplies of water have to be found, which almost always involves a larger outlay in capital equipment. Therefore, there is little incentive for management to overtly encourage increases in consumption; there is more incentive to restrict consumption and to encourage economy in the use of water. However, it does not appear that the pricing policies used by most systems accomplish this objective.

Another reason why pricing policies have not been emphasized is that engineering and public health considerations have taken precedence over pricing and other commercial considerations. Water systems are in most cases either directly or indirectly under the control of engineers whose primary goal is to insure that customers receive an adequate supply of potable water and to find answers to all technical problems which must be solved if this is to be done. Water is so essential to good health that it has become the accepted aim of administrators to insure that an ample supply of water is made available at reasonable cost. Hence, pricing policy is often a secondary consideration in water supply operations.

Demand. Closely related to the question of water pricing is the demand for water. The close relationship exists because for most products there is a noticeable tendency for quantity demanded to decline as price goes up, and vice versa. Of course, other factors such as population, family size, level of affluence, size of house, number of bathrooms, and number and kind of water-using kitchen appliances also influence the demand for water.

While no effort was made to secure data to construct a demand curve for water, the survey form requested data on the expectation of producing firms with respect to increases in the demand for water in the next decade. Almost 90 percent of the respondents indicated that they anticipated an increase in the demand for water. Of this number, sixty percent said that they expected demand to increase by less than 15 percent while only 2 percent said that they expect demand to grow by more than 100 percent. About 11 percent indicated that they expect demand to remain the same or decline in the next ten years.

As a rule, larger firms indicated that they expected higher rates of growth in demand than did smaller ones. About 21 percent of firms with fewer than 500 customers indicated that the rate of growth of water demand would be greater than 25 percent in the coming decade, while 40 percent of the firms with more than 500 customers foresaw an increase of this magnitude. No firm with fewer than 100 customers anticipated such an increase. There was no discernible correlation between anticipated growth in demand for water and legal type of organization.

It seems incongreuent, in light of the expected increase in demand, that almost three-fourths of the firms should have indicated that they have no plans for future expansion. There may be several reasons for this. One explanation is that many of the systems are small and usually do not develop formal plans or have an ongoing program for growth. Rather, expansion is on an ad hoc basis and new lines are laid and new plant and equipment are purchased when the demand for more water becomes urgent.

Of the 38 percent of the firms which plan future expansion, over one-half plan to finance the venture using one or some combination of these sources: long-term bonds, accumulated funds, and long-term loans, with long-term bonds expected to be the largest single source of funds. This is a reflection of the large percentage of water systems owned by local governments which have the power to issue bonds. When expansion was anticipated, there was no significant relationship between size of system and the planned method of financing.

Supply. Over 28 percent of the firms providing information indicated that there was an increase in their water supply between 1970 and 1980. Ten percent indicated that their water supply decreased and 61 percent indicated that their water supply remained constant. There was no apparent difference in changes in supply between systems obtaining water from subsurface and other sources. These data suggest that the water supply problem in Mississippi, while acute in a few systems in localized areas, is not yet severe on a statewide basis.

When viewed by customer size, it is somewhat surprising to find that larger systems were more likely to have had an increase in water supply between 1970 and 1980 than were smaller ones. Just over 23 percent of the systems with fewer than 1,000 customers experienced increases, while 36 percent of those firms with over 1,000 customers experienced increases. Apparently, the larger firms have been more active in locating new water sources to meet current or anticipated demand than have smaller ones.

Several questions in the survey form solicited miscellaneous information about variation in water supply and demand. The data indicate that there is very little seasonal variation in availability with only 6 percent of the systems indicating problems. All of the systems which experienced problems on a seasonal basis use groundwater. These data suggest that there is excess capacity for water production currently existing within the state. This is reflected by the fact that only 15 percent of the systems reported using maximum capacity either frequently or almost always. This suggests that use rates can be expanded for most systems without a corresponding expansion of production capacity.

Systems were also asked to indicate the extent to which they meter the water which they supply to their customers. Metering is important because of the conservation potential which it offers by being a constant reminder to the customer of the relationship between amount consumed and cost. Over 92 percent of the systems returning the questionnaire meter all of the water they pump. The remainder either use a master meter or meter some but not all of their customers. Ninety percent of the systems metering all of the water they produce use groundwater. Larger systems were more likely to be metered than were smaller ones.

Partly because of the fact that they utilize meters, water systems in Mississippi are able to account for most of the water they produce. Twenty-eight percent of the respondents are able to account for over 98 percent of their daily water production. About 60 percent of the firms indicated that they are able to account for 94 percent or more of their daily production, and almost 77 percent were able to account for 90 percent or more. Only 23 percent of the respondents were able to account for less than 90 percent of their daily water production.

Smaller systems are generally able to account for a higher percentage of their water production than are larger ones. For example, over 66 percent of the systems with fewer than 100 customers were able to account for 98 percent of the water they produce, while none of the systems with more than 3,000 customers were able to account for so large a percentage of their water production. A partial explanation is that many of the smaller systems are relatively new. Most are rural systems which were constructed in the 1960's and 1970's, often with financial assistance provided by the FHA. The equipment and distribution lines of these newer systems would likely be more functional than the equipment and lines of larger systems (usually municipalities) which may have been installed decades ago. Another reason why smaller systems reported that they were able to account for such a large percentage of the water they generate is that they use less sophisticated methods to detect water leaks and other losses. As noted above, smaller systems are less likely to be metered. Finally, smaller systems may have reported that they are able to account for a larger percentage of water produced because they use less complete and less revealing reporting methods than do larger ones.

Costs. Water systems receiving the questionnaire were also queried about the costs they experienced in 1980. The data reveal that water systems vary decidedly in cost per customer. This variance is influenced by production and distribution elements and by other factors. Systems using untreated well water that is available in adequate quantities usually have low costs. Costs are higher when the well supply is a considerable distance from the service area, or when it requires treatment. Costs also vary greatly because of financing arrangements. Systems constructed through the issuance of bonds have debt service requirements that will push their costs higher than those systems whose production systems are debt free. Of course, efficiency of operation and other factors also influence costs in water systems.

The total cost for each of the systems in 1980 was extracted from financial statements returned with the survey form. Several smaller systems could not provide cost data because of inadequately maintained records or for other reasons. Of the 125 systems providing this information, the cost range was from $30,000 to $19,432,400. The mean cost for respondents was $182,886, while the median was $38,601.

Analysis of costs was carried one step further to determine the cost by major component. The mean cost breakdown by object of cost was as follows:

Cost Item	Amount
Salaries and Wages	$56,681
Maintenance	$18,806
Depreciation	$37,390
Office Supplies	$ 2,325
Insurance	$ 3,637
Utilities	$25,554
Treatment	$23,433
Capital Impr. (Plant and Equipment)	$40,326
Capital Impr. (Other than Plant & Equipment)	$25,718
Debt Service	$43,003

Treatment. Another important factor influencing the cost of water system operations is the type of treatment used. Firms which need only to chlorinate can operate at a considerable advantage in cost over those required to treat water using more expensive methods.

Only 6 percent of the respondents reported that they did not treat the water they produced in some way. Of those which treat water, the treatment procedures varied widely. About 33 percent of the systems fluoridated their water and 37 percent used disinfectants. Nine percent use iron removal techniques and the same number used some form of filtration, 7 percent used softening methods, and 31 percent used other treatment methods. Several systems used two or more of the techniques.

Almost 90 percent of the firms indicated that they expected no major changes in treatment procedures. Of the 10 percent who indicated that they expected major changes in treatment procedures, most indicated that the reason was obsolete equipment rather than increased pollution. The much-publicized government effort to increase water pollution quality control is apparently not affecting most Mississippi water systems.

There was a greater tendency for larger systems than for smaller ones to anticipate major changes in treatment procedures. Over 14 percent of the systems with over 1,000 customers expected such changes. There was also a tendency for larger systems to anticipate the need because of increased pollution.

Computer Billing. While approximately one-third of all respondents used computer billing, there was a clear dichotomy between smaller and larger systems. Only 7 percent of the systems with fewer than 250 customers used computer prepared customer bills, while 43 percent of the respondents with more than 250 customers used this method of billing. Over 87 percent of the systems with over 10,000 customers used computer-assisted billing. Customer billing by computer was relatively more important for systems which are a part of local government or which are a public corporation.

Profit. Though most respondents indicated that they were not in business for a profit, over 43 percent managed to show a profit in 1980. Sixteen percent showed a loss and the remainder (over 40 percent) broke even.

SUMMARY AND CONCLUSION

The findings of this study show that there is a large variation between Mississippi water utilities in annual water production, population served, pricing structures, methods of ownership, costs, and other factors. The responses of a few large systems, in a study dominated by small systems, is one contributing factor to this variation. Also, there is a possibility that many systems may be operating in unique situations.

Although the water supply in Mississippi is sufficient to support a larger population and industrial base, the state is faced with many problems concerning the conservation of both quantity and quality of this valuable resource. One of the biggest problems facing Mississippi water systems is the lack of scientific methods in rate construction. Data from this study indicate that the pricing policy in most Mississippi water systems is not based on sound economic reasoning and tends to encourage heavy water use. This is particularly true of the declining block rate method used by many systems that has led in some areas to premature and expensive expansion of water capacity as well as to accelerated depletion of current reserves. The flat rate and fixed charge methods of pricing, as well, overtly induce overconsumption and waste in water usage.

The heavy population and industrial growth in Mississippi has aggravated supply problems, especially in areas that draw heavily from underground wells. Although adequate underground aquifers are generally available in most parts of the state, water levels have been lowered by the increased utilization of water for agricultural purposes and in homes, businesses, and industrial firms in a few small but (usually) heavily populated areas. There has been only limited construction of surface reservoirs and dispersion of groundwater pumps to relieve the situation. Therefore, receding water tables continue to exist and could impede future industrial development in the state.

Fortunately, the water supply problems facing Mississippi are not insurmountable. The increasing accumulation of scientific and economic data, improved techniques of pricing and construction, and the availability of expertise from regulatory bodies should enable water systems in the state to meet all future demands for water if proper conservation practices are adopted. In view of these findings, the meaning and the direction of the changes in water systems need to be thoroughly reviewed to provide a sound basis for the planning of future development and conservation of Mississippi's water resources.

FOOTNOTES

[1] Financial support for the research on which this study is based was provided by the Water Resources Research Institute at Mississippi State University.

[2] The mean value (arithmetic average) is a popular measure of the central tendency of data. It is found by summing the observations in a sample and dividing the total by the number of observations.

[3] The median value in an array is the midpoint of the series, with as many individual values above as below it in the range of the series. The median value is sometimes a better indication than the mean of the typical value in a group of data because the mean can be appreciably distorted by a few unusually high or low values.

INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS

[Seasonally Adjusted]
1969=100

Indicator	December 1981	November 1981	December 1980
Retail Sales	164.1	161.7	178.4
Electric Sales	196.2	190.8	201.1
Telephones in Service	231.3	231.4	225.9
Gasoline Gallonage	152.8	128.2	137.4
Loans of Savings & Loan Institutions	75.4	48.6	185.1

NEW AND EXPANDED INDUSTRY

Town	Firm	Product	No. of Employees
NEW			
Ashland	**TCI, Incorporated**	Torque Converters & Transmissions	46
Duncan	**Burrough Grain Bins**	Grain Bins	5
Olive Branch	**Cambridge Plan International**	Nutritional Diet Supplements	200
Philadelphia	**Choctaw Greetings Enterprises**	Greeting Card Hand Finishing	350
Verona	**Hoover Universal, Inc.**	Sleeper Sofas	20
Yazoo City	**Pepsi Cola**	Distribution warehouse	24
EXPANDED			
Greenville	**Hager Hinge**	Locks and Hinges	10
Magnolia	**McMillian Blodell**	Corrugated Containers	10
Meridian	**Peavy Electronics**	Electronic Equipment	
Poplarville	**MFC**	Broiler Processing	5
Verona	**Eljer Plumbingware**	China Plumbing Fixtures	80
Vicksburg	**South Central Corporation**	Wire Baskets	5

Optimization of the Advertising Budget Allocated to Recruitment

By

Gedaliahu H. Harel and Jacob Y. Kamin

Gedaliahu H. Harel

Jacob Y . Kamin

Gedaliahu H. Harel is a visiting associate professor at the Graduate School of Management, UCLA, and a senior lecturer at the Faculty of Industrial Engineering and Management Technion, ISRAEL. He received his B.A. from the Hebrew University in Jerusalem, MBA, from SUNY at Buffalo and his Ph.D. in Labor and Industrial Relations from Michigan State University. His current research is concerned with issues of human resources management.

Jacob Y. Kamin is a visiting associate professor at the Graduate School of Management, UCLA. He received his B. Sc. in chemical Engineering at the Technion, Israel, MBA, from Tel Aviv University and Ph.D. in Business Administration from NYU. His current research is on management budgeting and control of technologic innovations.

ABSTRACT

This paper provides a deterministic model to ascertain the amount of financial resources an organization should allocate to advertising for recruitment in order to maximize its short range profits.

Finding and attracting qualified individuals for the organization is a continuing challenge for most personnel departments. Most writers emphasize the following objectives for the recruitment process: to seek out and attract job candidates capable, for and interested in, filling vacant jobs, at a properly managed cost.[1] In order to accomplish these objectives the personnel staff responsible for recruitment must know how many employees are needed, what kind of qualifications are required, where to locate potential candidates, what search methods to utilize, how to distinguish applicants who have a reasonable chance of succeeding, from those who are unqualified, and the amount of resources to be invested in the process. Rising labor cost and increasing attention to bottom line considerations necessitate evaluation of the economic consequences of the various processes, including those devoted to recruitment. The latter concern is the focus of the foregoing analysis.

The recruitment process consists of four interrelated stages (1) recruitment planning, (2) searching, (3) initial screening, and (4) creation of the pool of candidates. The planning stage includes such activities as setting numerical targets, skill and ability requirements, sources of candidates and search methods. A wide variety of recruiting sources and search methods are available to organizations seeking candidates, some practically free while others are very costly to the employer. Selection of the search method is influenced to a large extent by such variables as: number of recruits needed, the conditions in the labor market, the type of jobs to be filled, affirmative action requirements, etc. Once the search is completed the firm can expect to receive a flood of applications and/or resumes; at this time the recruiting unit needs to perform an initial screening in which the most unfitting applicants are weeded from the process. Candidates who have passed the initial screening are then contacted and scheduled for the subsequent selection process. The quantity and quality of candidates who have been attracted into the pool of candidates is of crucial importance for the selection process as well as the other personnel processes. Failure to achieve recruitment goals may result in lowering of hiring standards, increased expenditures for employee training, lower levels of performance and attendance and higher turnover.

Although there is little published information about how employers decide on recruiting sources and search methods, it is possible to get some insight into this question from studies of jobseekers. One such study conducted among 876 jobseekers in England, reports that, of a dozen job-finding methods, those used most often by men were: employment services, advertisements, the friend/relatives network, and casual application, in that order.[2] Another study conducted by the U. S. Department of Labor indicates that the job-finding methods used most often by jobseekers were: direct application to employers without suggestions or referrals by anyone, asking friends, and answering newspaper advertisements, in that order.[3] As indicated by these studies, and others[4], advertisement is one of the most effective recruiting tools in the hands of the organization. It is also apparent from the published literature, that the cost of advertising for recruitment might become a prime consideration for most personnel departments of large and medium-sized organizations.[5]

This article provides a deterministic model to ascertain the amount of financial resources an organization should allocate to advertising for recruitment in order to maximize its short-range profits. This analytical tool will be most useful for medium and large scale organizations that have a reliable accumulation of data on their recruitment activities. Labor market conditions and advertising costs are assumed to be unchanged for the duration of the analysis.

A DETERMINISTIC MODEL

Assume that we know that the shape of the function describing recruitment in response to advertising has the following graphical form shown in Figure 1:

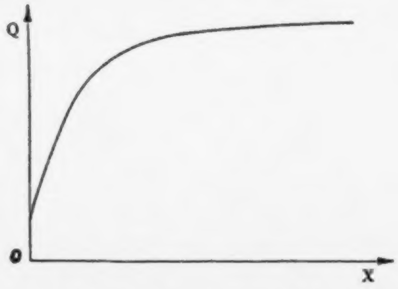


Figure 1: A Typical Recruitment/Advertising Effort Function

Thus, the number of employees recruited per time period is $Q = f(x)$, where x represents the dollars spent on advertising and f is a twice differentiable function. The shape of the graph can be interpreted mathematically as follows in terms of the first and second derivatives of f:

$$f'(x) = \frac{d}{dx} f(x) > 0$$

$$f''(x) = \frac{d^2}{dx^2} f(x) < 0$$

Note that f(0) is the recruitment program without any advertisement.

Now suppose that the firm's net profit from the recruitment process, π, is given by the equation:

$$\pi = PQ - (VQ + F + X)$$

where:

P = the added value to the organization from one recruitee over some fixed time period.

V = the variable cost per recruitee, exclusive of advertisement (home visits, addition of personnel to the recruiting team, testing cost, cost of processing of resume).

F = fixed cost (proportional administrative cost of the recruitment function).

Substituting for Q we have:

$$\pi = (P-V)f(x) - F - X$$

and to find the optimal advertising expenditure we have:

$$\frac{d\pi}{dx} = 0$$

to obtain:

$$(P-V)f'(x) - 1 = 0$$

$$f'(x) = \frac{1}{P-V}$$

Since we know that $P-V>0$ we have

$$\frac{d^2\pi}{dx^2} = (P-V)f''(x) < 0$$

so that the solution (1) is in fact a maximum. In order to evaluate the required maximum in a specific application, the precise nature of the function f must be known. This will usually require two parts: deciding on the type of function f; and then determining the value of any parameters involved in its definition. The first part may be decided a priori on the basis of theoretical considerations while the second will usually require estimation (e.g. by a regression technique) based on some set of observations of pairs Q and X (see example). However, the type of function may also be chosen after recording observations and by comparing several regressions. Letting a, b, and c be constants, a typical candidate for f is:

(2) $Q = f(x) = a + b\sqrt[c]{x} \qquad X \geq 0;\ a, b \geq 0;\ c > 1$

Both theory and experience may well determine the value of c. The parameters a and b can be estimated from the record of the firm's experience with job advertising.

Substituting in (1) the first derivative of (2)

$$f\ (x) = b \cdot \frac{1}{c} \cdot X^{\frac{1}{c}-1} = \frac{1}{P-V}$$

and rearranging

$$X^* = \left[\frac{b(P-V)}{c}\right]^{\frac{c}{c-1}}$$

The firm that estimates b and c from its own experience and determines the value added and variable cost for its recruitees can use this result to determine the optimal job advertising budget.

Example

In this example, we use an advertising response function that exhibits the behavior discussed above

$$Q = f(x) = a + b\sqrt[c]{X}$$

with $c=3$.

A medium size firm that hires or replaces an average of 20 professional employees in a given year and has a ratio of new hires per recruitees of 1:7 seeks a pool of approximately 140 recruitees in a given year. If we collect job advertising data ranging from a single, relatively small, display ad in the newspaper to a large number of ads in several publications, this experience is presented by the following example:

Advertising Budget	Number of Recruitees
1,000	40
2,000	48
3,000	53
4,000	58
5,000	61
6,000	64
10,000	73
15,000	85
20,000	90
30,000	103
40,000	115
80,000	140
120,000	155

To estimate the function $Q = f(x)$ we fit a regression line to the linear equation

$$\hat{Q} = \hat{a} + \hat{b} Z$$

where $Z = \sqrt[3]{X}$.

The results of the linear regression are $\hat{a} = 10.2$ and $\hat{b} = 2.98$.

Using the model to determine the optimal advertising outlay requires that the firm assess the value added of a recruitee and the variable recruiting cost. In this example, because of the high employment turnover and high mobility of professional employees, we assume that the horizon of a new hire is only one year and that the firm seeks a pay back period of one year for its recruitment costs. While there are many ways to assess the value added of an employee we use the average yearly salary plus benefits in this example which is $35,000. Since the ratio of new hires per recruitees is 1:7 we establish P = $5,000 as the value added of a recruitee. The cost of a home visit, interview, processing, etc., exclusive of job advertising, averages $3,000 per recruitee. Substituting the example data in our model result

$$X^* = \left[\frac{b(P-V)}{c}\right]^{\frac{c}{c-1}}$$

where

$b = \hat{b} = 2.98$
$c = 3$
$P = 5{,}000$
$V = 3{,}000$

the optimal allocation to job advertising is

$$X^* = \left[\frac{2.98(5000-3000)}{3}\right]^{3/2} = 88{,}550$$

Thus, the firm should invest $88,550 in advertising which will result in a pool of 143 recruitees in one year.

In order to make use of the analytical tool presented in this paper the firm is required to collect data on its advertising response (preferably for each medium) and determine as accurately as possible the shape of the function. Finally, the firm needs to ascertain its own fixed costs and value added per recruitee.

We have presented an analytical tool which can be applied in evaluating one aspect of the recruitment process. It can be used to improve the qualitative decision-making with which the professionals in the field of human resources are entrusted.

REFERENCES

1. R. H. Hawk, **The Recruitment Function**, (New York : American Management Association, 1967).
2. G. L. Reid, "Job Search and the Effectiveness of Job-finding Methods," **Industrial and Labor Relations Review**, Vol. 25 (1972), 479-495.
3. C. Rosenfeld, "Jobseeking Methods Used by American Workers," **Monthly Labor Review**, Vol. 98, No. 8 (1975), 39-42.
4. E. E. Burrow and E. J. Leslie, "Adding the Professional Touch to Classified Advertising," **Personnel Journal**, Vol. 52 (1973), 705-709, 734.
5. H. G. Henerman, III, D. P. Schwab, J. A. Fossum and L. D. Dyer, **Personnel/Human Resource Management** (Homewood, Illinois:Richard D. Irwin, Inc., 1980).

Tourist Briefs

Russell C. Davis Planetarium

Jackson, Mississippi

HISTORY

Today the Russell C. Davis Planetarium is a reality; tomorrow's children will visit and marvel at its theatrical presentations. But to those who have played an important role in its past, the building stands as a monument.

The idea to construct a planetarium took its roots in a group of business leaders and private citizens working toward the erection of a state art museum in downtown Jackson. Sub-Committee of the Chamber of Commerce spent months diligently enlisting monetary pledges and the interest of various cultural organizations. Five such organizations agreed to share quarters in a common structure. Thomas J. Biggs was selected as architect. Although first presented to the City under the administration of Allen C. Thompson, it was in 1972, during the administration of Russell C. Davis, that the citizens of Jackson in a referendum approved $1.5 million for the construction of an arts center/planetarium. Once again, as inflation developed a new set of cost figures, the Chamber of Commerce met the challenge of raising an additional $2.0 million for the project. Construction on the Arts Center Complex was completed in 1978 under the administration of Mayor Dale Danks.

The Russell C. Davis Planetarium represents over fifteen years of work in which literally hundreds of people have contributed time, money and support. No longer just a lofty idea, the Planetarium is indeed a monument to those to whom it is dedicated—the people of Mississippi.

BUILDING

Constructed by the City of Jackson with the aid of private donors, the Russell C. Davis Planetarium is designed to provide a theater experience that is unsurpassed by any other facility of its type in the world. The traditional starry-skied theater for astronomy is only part of what Mississippi's first large planetarium can offer. New projection technology permits a great variety of entertaining and educational experiences in the arts and sciences, and a small performing stage allows "live" theater to be incorporated in many presentations.

Construction for the Davis facility was begun in 1976. Architects for the Mississippi Arts Center/-Russell C. Davis, Planetarium were Biggs-Weir of Jackson. The Planetarium theater is sixty-two feet in diameter, making this the tenth largest planetarium in the country. Comparable to facilities normally found in much larger cities, 230 people can be seated in comfortable highback reclining rocking chairs. Spacious projection galleries ring the theater, and a twenty-five omniphonic sound system carries the fourchannel tracks of the programs. The facility boasts the Minolta Series TV Planetarium Projector, one of the most advanced.

A remarkable cinema experience awaits viewers of the amazing Cinema-360 system. Unique motion pictures filmed with 180 degree fish-eye lenses put the audience in the center of the action. The single 35mm motion picture projector throws a movie image into the huge hemispheric screen so that the scene includes the entire landscape of 360 degrees around the viewer, plus all the sky as well.

The Planetarium is constructed adjacent to the Mississippi Art Center on Pascagoula Street in downtown Jackson.

SCHEDULE OF PERFORMANCES

Academic School Year Schedule - September to May:

Tuesday - Friday	9:00*	10:30*	12:00	8:00
Saturday	2:00	4:00	8:00	
Sundays	2:00	4:00		

*School-Oriented Programs

Summer Schedule - June to August:

Tuesday - Friday	12:00	2:00	8:00
Saturday	2:00	4:00	8:00
Sunday	2:00	4:00	

The Planetarium is closed for New Year's Day, Fourth of July, Thanksgiving Day, Christmas Eve and on Mondays.

Public performances at the Russell C. Davis Planetarium will normally aim for a forty-five minute feature program and a twenty minute "trailer."

School performances can be added to open times by advance arrangement. Also special programming such as music concerts, laser shows, etc., may call for extensive short-term schedule modifications.

EDUCATIONAL OPPORTUNITIES

Shows geared to school groups are presented during the academic school year (September - May) Tuesday through Fridays at 9:00, 10:30 and 12:00 noon. There will be a one dollar admission charge per student with one adult admitted free when accompanied by ten pupils. The adults must accompany the students at all times and be responsible for their conduct. Only scheduled school groups can be accommodated during the weekdays. The educational possibilities of the Planetarium are endless, and each child benefits from this experience.

Civil War Short

Brandon Ladies Curious. On July 19, 1863, a Union force commanded by Major General Frederick Steele occupied Brandon and bivouacked for the night in the Academy Square.

As Steele's were the first Federal troops to visit Brandon, their coming created considerable excitement and no little curiosity among the ladies of the town. Some of them, after viewing the soldiers through closed blinds, came out on their porches and became interested in a section of guns belonging to Battery E, 1st Illinois Light Artillery.

One of them was heard to remark, "I wish they would fire it, I'd like to hear it." The appearance of a squad of confederate cavalry in a distant field gave the battery commander a pretext for satisfying that desire, and he quickly ordered the gunners to "send a shell over there." The shock of the discharge shattered the windows and sent the curious ladies screaming into the houses.

Source: "Let's Talk Mississippi," Mississippi Economic Council.

MEET THE FACULTY

Dora R. Herring

School of Accountancy

Dora R. Herring is Professor of Accounting at Mississippi State University. Her areas of specialization are: Accounting Systems, Auditing and Data Processing.

She holds a D.B.A. degree from Mississippi State University and is a CPA in the State of Mississippi. She received a M.P.A. and B.S. from Mississippi State University in Accounting. She entered college at Bowling Green College of Commerce, Bowling Green, Kentucky, where she received an A.A. degree in Accounting.

Dr. Herring has served as speaker at NAA seminars, American Accounting Association convention programs, a member of National Committees on Education of AAA and NAA, National Director of NAA and holds membership in Beta Alpha Psi, Beta Gamma Sigma, Phi Kappa Phi, American Institute of CPAs, Mississippi Society of CPAs, American Society of Women CPAs and other professional groups. She has been listed in Personalities of the South, Outstanding Educators of American and Worlds Who's Who of Women.

Since receiving her D.B.A. degree, Dr. Herring has been active in helping business firms analyze systems problems and in developing courses at MSU on Accounting Systems and Accounting Applications of EDP. She served from July, 1979, to September, 1981 as the Director of the School of Accountacy at Mississippi State. She has been a member of the Board of Regents of the Institute of Management Accounting sponsored by the National Association of Accountants, National Director for NAA, and Various departmental, College, University and professional organization committees.

Dr. Herring has published articles in **Management Accounting**, **Management Services**, and other professional journals.

Dr. Herring is married to Ward Herring and they have three sons. Calvin is a radiologist in Birmingham, Alabama; Barry is a dentist in Starkville, Mississippi; and Clyde is an accountant in Nashville, Tennessee. The Herrings have three grandchildren: Amy, age 9, Christie, age 6; and Sam, age 4. Dr. Herring enjoys sewing and crafts in her spare time.

MEET THE FACULTY

Michael P. O'Neill

Department of Economics

Michael P. O'Neill is an Assistant Professor of Economics at Mississippi State University. His teaching and research fields and interest are the economics of energy and natural resources; Macro-Money; economic development; economic and social statistics; national income accounting.

Dr. O'Neill received his Ph.D. in economics from the University of Oklahoma, his M.A. from St. Mary's University, San Antonio, Texas, and his B.A. from St. Edward's University, Austin, Texas. Before coming to Mississippi State University in 1977, Dr. O'Neill taught at the University of Oklahoma and Oscar Rose Junior College, Midwest City, Oklahoma.

Dr. O'Neill has published articles in **Proceedings of the Midsouth Journal of Economics, Proceedings of the Southwestern Economic Association**, and **Proceedings of the Ninth annual Modeling and Simulation Conference**.

Since receiving his Ph.D., Dr. O'Neill has presented programs at several annual meetings. Including the Southwestern Economic Association, Missouri Valley Economic Association, Mid South Academy of Economists, Southern Economic Association and the Western Economic Association.

Serving on the Governor's (Mississippi) Task Force for Analysis of the National Energy Plan and the General Committee for the Mississippi Energy Research Center are two professional committees he is on. The American Economic Association, Association of Social Economics, Southern Economic Association, Western Economic Association, Missouri Valley Economic Association, Southwestern Social Science Association, International Economic Association, Omicorn Delta Epsilon, and National Association of Business Economists are some of the professional organizations he has membership.

STATE ECONOMIC INDICATORS

Indicator	December 1981[1]	November 1981[2]	December 1980[2]	Per Cent Change	
				One Month Ago[3]	One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	1,022,900	1,020,300	1,015,000	0.3	0.8
Non-Ag Employment	821,100	821,200	838,700	0.0	— 2.1
Mining	11,100	11,100	11,000	0.0	0.9
Contract Construction	39,300	40,000	43,300	— 1.8	— 9.2
Manufacturing	214,100	214,900	219,700	— 0.4	— 2.6
Transportation and Public Utilities	40,600	41,500	41,400	— 2.2	— 1.9
Wholesale and Retail Trade	170,200	167,300	170,500	1.7	— 0.2
Finance, Insurance and Real Estate	33,100	33,100	32,900	0.0	0.6
Service	123,100	123,600	122,500	— 0.4	0.5
Government	189,600	189,600	197,500	0.0	— 4.0
Unemployment Rate (Per Cent Labor Force)	9.3	9.1	7.4	——	——
Average Weekly Earnings in Manufacturing (Dollars)	241.10	239.85	229.54	0.5	5.0
Average Hourly Earnings in Manufacturing (Dollars)	6.23	6.15	5.71	1.3	9.1
Average Weekly Hours in Manufacturing	38.7	39.0	40.2	— 0.8	— 3.7
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,876	2,887	4,538	— 0.4	—36.6
Gasoline Delivered to Dealers (gals.)[6]	118,652	104,331	106,868	13.7	11.0
Dairy Production					
Milk (lbs.)[7]	67,000	64,000	63,000	4.7	6.3
Egg Production (No. eggs)[7]	146,000	141,000	144,000	3.6	1.4
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[8]	11,600	7,800	26,500	48.7	—56.2
Construction Loans	2,100	300	1,900	600.0	10.5
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[9]	1,620,575	1,544,495	1,706,161	4.9	5.0
Telephones in Service (Number)[10]	1,534,144	1,534,973	1,498,506	— 0.1	2.4
RETAIL SALES ($000's)[11]	1,362,766	1,453,976	1,353,075	— 6.3	0.7

Indicator	September 1981	August 1981	September 1980	Per Cent Change	
				One Month Ago	One Year Ago
AGRICULTURE ($000's)[12]					
Total Cash Receipts from Farm Marketings	156,207	112,084	101,051	39.4	54.6
Cash Receipts from Marketing Livestock	87,676	83,107	86,079	5.5	1.9
Cash Receipts from Marketing Crops	68,531	28,977	14,972	136.5	357.7

[1] Preliminary
[2] Revised
[3] Percent change calculated with revised figures; not comparable with previously published data.
[4] Mississippi Employment Security Commission
[5] State Oil and Gas Board for August
[6] Mississippi Motor Vehicle Comptroller
[7] Mississippi Crop and Livestock Reporting Service
[8] Federal Home Loan Bank of Little Rock
[9] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority
[10] South Central Bell Telephone Company
[11] Mississippi Tax Commission
[12] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month December	Month Ago	Year Ago	Current Month December	Month Ago	Year Ago	Current Month December	Month Ago	Year Ago
Aberdeen	23.5	82.7	8,420	−0.1	3.1	46,386	6.7	21.2	23,000	95,540	45,500
Baldwyn	−3.8	35.2	4,775	−0.4	1.7	19,428	−6.6	−12.7	——	——	——
Batesville	——	——	9,372	0.4	4.6	51,792	−3.5	2.5	6,667	15,000	396,000
Bay Springs	——	——	——	——	——	21,273	−7.6	−11.6	——	——	——
Bay St. Louis	——	——	14,207	0.3	3.6	37,589	20.5	15.5	6,000	108,300	66,900
Belmont	17.2	0.4	2,400	0.0	3.5	9,580	−5.2	−3.8	——	——	——
Belzoni	——	——	5,190	0.4	4.8	27,568	−14.8	8.2	27,000	2,500	37,000
Biloxi	——	——	46,570	0.2	2.1	249,367	−0.9	4.6	1,398,267	1,049,563	2,361,516
Brandon	7.7	−7.1	11,409	0.2	−3.9	37,435	6.3	22.2	87,700	207,000	256,000
Brookhaven	——	——	16,164	−0.1	0.9	121,510	9.5	−1.6	187,000	111,620	144,188
Brooksville	——	——	1,315	0.2	−1.3	2,606	−0.3	60.6	——	——	——
Canton	——	——	11,192	0.5	3.5	59,795	1.3	−9.9	——	——	——
Carthage	——	——	7,539	0.1	0.4	36,843	−8.2	11.5	16,500	29,200	61,200
Charleston	——	18.1	4,280	0.4	2.4	25,551	−11.3	44.9	——	——	——
Clarksdale	8.7	16.5	20,764	−0.1	−1.2	134,739	9.7	13.3	119,250	99,700	184,182
Cleveland	——	——	13,966	−0.4	−1.0	103,343	9.6	9.3	——	——	——
Collins	——	——	4,778	0.6	2.7	31,742	−7.5	−12.9	——	——	——
Columbia	——	——	16,336	−0.2	3.1	88,119	6.9	8.7	——	——	——
Columbus	——	——	34,122	−0.2	0.7	228,673	6.8	9.6	475,261	361,897	506,600
Corinth	47.6	42.6	21,115	−0.2	1.1	112,940	0.9	−1.2	39,955	3,623,530	655,528
Crystal Springs	——	——	6,008	−0.4	1.3	20,923	4.0	−14.3	46,120	46,000	30,000
Drew	41.6	41.6	2,966	1.8	8.4	10,836	6.4	−3.4	——	——	——
Edwards	23.8	75.0	1,735	−0.3	3.0	3,164	−9.5	−23.3	——	——	——
Ellisville	13.0	36.0	4,089	−1.3	2.9	15,173	−3.1	−9.7	——	——	——
Eupora	25.4	13.3	4,534	0.7	2.7	15,857	−2.7	−5.8	——	——	——
Fayette	0.2	−0.5	3,392	0.4	1.7	11,675	79.4	16.1	4,000	46,120	——
Forest	——	——	5,176	0.4	1.9	47,585	2.9	−5.3	——	——	——
Greenville	——	——	37,347	−0.1	0.5	256,582	3.6	2.8	——	——	——
Greenwood	——	——	24,046	0.0	−0.2	154,110	0.9	−3.3	54,909	2,527,000	16,290
Grenada	——	——	14,520	0.1	1.1	79,772	3.4	−0.7	30,000	116,000	194,950
Gulfport	——	——	63,643	−0.1	2.4	248,958	2.3	0.4	318,395	1,103,129,790	607,017
Hattiesburg	——	——	61,368	−0.6	2.0	342,421	−1.0	−3.8	1,011,652	425,895	3,021,838
Hernando	12.9	——	7,468	0.3	7.8	23,244	7.4	−5.8	27,500	——	20,000
Hollandale	−40.5	−1.4	3,401	−0.3	1.4	15,012	23.6	16.0	1,125	——	——
Holly Springs	——	——	7,766	0.4	3.2	41,413	−1.8	7.8	57,500	——	1,497,218
Houston	——	——	5,748	0.2	1.6	27,749	−0.1	13.7	8,000	45,400	276,200
Indianola	22.4	−26.5	7,869	0.1	0.3	60,449	−16.8	−5.7	——	——	——
Iuka	——	——	5,787	−0.5	1.8	28,368	4.2	23.1	——	——	——
Jackson	——	——	231,935	0.0	2.2	1,408,105	1.0	−6.2	1,660,718	5,038,593	2,762,632
Kosciusko	24.1	13.2	9,554	0.4	0.9	56,267	10.9	14.8	82,400	114,500	220,000
Laurel	24.6	——	36,324	0.4	4.2	395,790	12.3	23.9	393,585	216,524	917,462
Leland	——	——	5,355	−0.2	2.7	21,069	−1.9	28.0	12,400	57,570	30,340
Lexington	——	——	4,956	−0.2	2.6	17,101	−10.1	−11.9	——	——	——
Louisville	0.1	−6.6	10,806	−0.4	1.5	53,410	15.2	16.7	76,746	46,500	137,570
Lucedale	——	——	8,663	0.0	2.8	36,102	7.8	2.1	680,900	81,000	40,900
Lumberton	——	——	2,997	−0.1	2.5	9,444	8.1	6.0	——	——	——
Macon	——	——	3,806	0.7	1.3	14,754	−6.7	−6.6	——	——	——
Magee	——	112.5	5,519	0.0	3.6	41,537	5.7	10.5	——	——	——
Magnolia	——	——	4,418	0.5	3.1	8,655	−7.4	−6.6	37,300	17,000	35,800
Marks	——	6.9	5,501	−0.2	0.3	16,124	21.4	17.3	——	——	——
McComb	——	——	20,432	0.1	2.3	137,429	13.8	4.8	87,500	150,365	132,400
Meadville	——	——	——	——	——	5,837	9.4	−2.8	——	——	——
Mendenhall	10.4	3.9	6,763	0.4	3.8	17,046	1.8	−0.1	——	——	——
Meridian	——	——	47,777	−0.4	−0.7	353,204	5.2	−0.8	2,636,572	1,217,096	216,534
Monticello	32.2	15.9	5,083	0.7	3.5	18,471	−6.0	−19.3	35,500	144,500	——
Morton	——	——	3,639	0.3	6.6	18,570	−6.9	−1.2	——	——	——
Moss Point	——	−0.8	16,696	0.3	2.8	48,023	6.8	18.9	64,680	149,450	191,832
Natchez	——	——	31,001	0.3	3.3	257,788	10.8	12.3	63,545	124,564	241,110
New Albany	11.5	8.8	11,536	−0.4	1.5	56,278	0.0	2.0	218,400	111,500	125,000
Newton	——	——	4,209	0.3	3.1	25,676	14.8	10.1	47,623	121,572	36,500
Ocean Springs	25.8	−18.2	16,134	−0.3	1.5	78,854	9.0	13.9	——	——	——
Okolona	——	——	3,486	−0.5	1.0	13,222	−9.4	−1.4	——	——	——
Oxford	——	——	21,508	−1.4	−0.1	90,858	2.9	4.4	59,625	94,100	41,378
Pascagoula	——	——	37,171	0.3	5.5	196,702	4.7	3.3	251,211	914,834	336,752
Pass Christian	——	——	5,799	0.3	3.9	13,800	15.0	64.5	30,380	108,740	33,200
Philadelphia	——	——	11,976	−0.1	2.8	50,920	−6.6	0.7	——	——	——

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month December	Month Ago	Year Ago	Current Month December	Month Ago	Year Ago	Current Month December	Month Ago	Year Ago
Picayune	——	——	16,344	0.3	4.8	84,624	8.2	11.5	——	——	——
Pontotoc	1.5	8.0	9,595	−0.3	1.1	39,231	1.3	15.9	——	——	——
Poplarville	——	——	4,322	0.0	4.0	15,495	−24.3	−20.7	210,000	32,500	37,000
Port Gibson	43.2	18.9	5,746	−4.5	−0.8	16,868	8.7	4.1	——	——	——
Prentiss	——	——	——	——	——	19,967	− 5.2	3.2	50,100	225	10,000
Quitman	——	——	5,048	0.1	2.1	24,029	4.5	4.1	——	——	——
Raymond	− 8.3	−11.1	3,322	−0.2	5.2	5,894	23.1	− 4.3	——	——	——
Richton	——	——	1,979	0.2	−1.7	8,999	−14.6	− 5.1	——	——	——
Rosedale	——	——	1,585	−0.5	−2.2	7,587	4.8	5.4	——	——	——
Ruleville	——	——	1,946	0.4	1.7	11,795	8.5	8.3	5,000	47,000	5,000
Sardis	——	——	3,315	−5.0	−5.0	18,888	30.2	2.5	——	——	——
Senatobia	——	——	6,982	−0.8	3.7	39,048	− 0.7	2.5	34,000	6,000	210,500
Shelby	− 6.6	7.8	1,635	0.4	0.3	9,174	−17.5	5.3	——	——	——
Starkville	——	——	25,300	−1.3	2.0	103,524	3.9	14.9	78,400	245,630	329,000
Summit	——	——	1,741	1.0	5.4	9,844	3.6	4.6	——	——	——
Taylorsville	5.8	16.1	1,813	−0.3	2.0	11,307	− 3.7	3.2	——	——	——
Tchula	——	——	1,996	−0.2	−1.2	4,960	29.6	− 4.3	——	——	——
Tunica	——	——	4,295	0.5	0.1	16,087	− 8.7	1.1	——	——	——
Tupelo	22.2	25.3	38,376	−0.2	1.6	314,591	5.4	2.2	423,700	230,060	1,209,850
Union	21.0	8.7	2,902	0.1	5.1	13,364	4.8	−17.7	——	——	——
Utica	——	——	3,130	−0.7	3.4	9,148	−11.8	9.2	——	——	——
Vicksburg	——	——	39,556	2.5	1.0	199,135	0.8	2.9	199,280	453,175	311,668
Walnut Grove	——	——	1,060	−0.1	2.1	1,677	− 1.5	37.5	——	——	——
Water Valley	——	——	4,259	−0.5	4.7	21,278	0.9	− 4.9	——	——	——
Waynesboro	——	——	7,998	0.3	3.7	62,810	5.6	13.6	949,122	——	——
West Point	3.4	2.4	12,665	0.1	2.3	55,095	− 0.6	7.3	741,675	42,025	165,350
Wiggins	13.9	5.8	6,366	0.0	0.7	20,837	− 8.0	−40.1	3,500	27,000	99,500
Winona	11.6	5.9	5,011	0.1	0.0	31,089	7.7	18.4	——	——	171,500
Yazoo City	7.1	−51.3	12,716	0.1	2.1	62,468	−11.9	−10.4	——	——	——

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON **[Hinds and Rankin Counties]**	December 1981[1]	November 1981	December 1980	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	154,000	152,500	153,900	1.0	0.1
Unemployed Persons	10,500	10,100	7,700	4.0	36.4
Per Cent of Labor Force	6.8	6.6	5.0	——	——
Employed Persons	143,500	142,400	146,200	0.8	− 1.9
Non-Ag Wage & Salaries	125,000	123,800	127,500	1.0	− 2.0
Manufacturing	17,500	17,100	17,600	2.3	− 0.6
TELEPHONES IN SERVICE	251,531	251,586	246,657	0.0	2.0
CITY SALES TAX COLLECTIONS	1,463,746	1,447,794	1,550,898	1.1	− 5.6

BILOXI-GULFPORT **[Hancock, Harrison and Stone Counties]**	December 1981	November 1981	December 1980	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	65,390	64,870	64,220	0.8	1.8
Unemployed Persons	4,820	4,680	3,800	3.0	26.8
Per Cent of Labor Force	7.4	7.2	5.9	——	——
Employed Persons	60,570	60,190	60,420	0.6	0.3
Non-Ag Wage & Salaries	51,880	51,510	51,850	0.7	0.1
Manufacturing	8,410	8,260	8,280	1.8	1.6
TELEPHONES IN SERVICE	116,012	115,968	113,337	0.0	2.4
CITY SALES TAX COLLECTIONS	499,705	507,031	494,776	−1.4	1.0

[1] Preliminary

Motor Vehicle Registration By County

[illegible]

County	1980	% of State	% of Change	1981	% of State	% of Change
Adams	25,079	1.6	—0.73	25,519	1.6	1.75
Alcorn	22,514	1.4	0.77	22,848	1.4	1.48
Amite	9,534	0.6	2.21	9,622	0.6	0.92
Attala	13,345	0.8	1.01	13,347	0.8	0.00
Benton	5,227	0.2	—9.38	5,359	0.3	2.53
Bolivar	23,525	1.5	—0.32	22,505	1.4	—4.34
Calhoun	10,370	0.6	3.18	10,264	0.6	—1.02
Carroll	6,183	0.4	—0.40	6,343	0.4	2.59
Chickasaw	11,651	0.7	—0.21	11,614	0.7	—0.32
Choctaw	5,987	0.4	2.29	5,940	0.4	—0.79
Claiborne	6,408	0.4	4.93	6,297	0.4	—1.73
Clarke	11,919	0.7	0.89	11,874	0.7	—0.38
Clay	12,588	0.8	1.45	12,498	0.8	—0.71
Coahoma	19,114	1.2	0.97	18,736	1.2	—2.00
Copiah	16,808	1.1	1.31	16,287	1.01	—3.10
Covington	11,208	0.7	1.47	11,240	0.7	0.29
DeSoto	38,358	2.4	1.30	38,506	2.4	0.39
Forrest	41,683	2.6	0.51	41,560	2.6	—0.30
Franklin	6,118	0.4	2.36	6,276	0.4	2.58
George	10,637	0.7	—0.75	10,859	0.7	2.09
Greene	6,161	0.4	5.06	6,169	0.4	0.13
Grenada	13,477	0.8	—0.03	13,555	0.8	0.58
Hancock	15,901	1.0	6.39	16,608	1.0	4.45
Harrison	102,919	6.4	—0.21	104,902	6.5	1.93
Hinds	168,710	10.5	—0.58	165,768	10.3	—1.74
Holmes	10,809	0.7	2.89	10,711	0.7	—0.91
Humphreys	7,103	0.4	—0.22	7,090	0.4	—0.18
Issaquena	1,921	0.1	—0.21	1,898	0.1	—1.20
Itawamba	14,055	0.9	3.74	13,956	0.9	—0.70
Jackson	73,923	4.6	—2.39	75,408	4.7	2.01
Jasper	11,765	0.7	0.63	11,932	0.7	1.42
Jefferson	4,945	0.3	4.24	4,956	0.3	0.22
Jeff Davis	9,066	0.6	2.49	9,267	0.6	2.22
Jones	44,182	2.8	—0.89	45,237	2.8	2.39
Kemper	6,342	0.4	0.99	6,519	0.4	2.79
Lafayette	15,068	0.9	—2.47	15,514	0.9	2.96
Lamar	16,586	1.0	1.47	17,566	1.1	5.91
Lauderdale	50,730	3.2	—1.39	51,502	3.2	1.52
Lawrence	8,647	0.5	1.10	9,068	0.6	4.87
Leake	12,447	0.8	—0.97	12,458	0.8	0.09
Lee	41,526	2.6	—0.48	40,739	2.5	—1.90
Leflore	21,582	1.3	—1.72	21,119	1.3	—2.15
Lincoln	21,085	1.3	4.22	20,938	1.3	—0.70

County	1980	% of State	% of Change	1981	% of State	% of Change
Lowndes	34,113	2.1	—4.57	36,536	2.3	7.10
Madison	24,402	1.5	3.93	25,000	1.6	2.45
Marion	17,752	1.1	2.72	17,687	1.1	—0.37
Marshall	14,378	0.9	—1.34	14,631	0.9	1.76
Monroe	24,730	1.5	—1.54	24,410	1.5	—1.29
Montgomery	8,062	0.5	—2.50	8,043	0.5	—0.24
Neshoba	16,147	1.0	5.14	15,845	1.0	—1.87
Newton	13,992	0.9	0.04	13,989	0.9	—0.02
Noxubee	6,813	0.4	2.65	6,826	0.4	0.19
Oktibbeha	18,578	1.2	—0.46	18,986	1.2	2.20
Panola	16,113	1.0	1.07	15,647	1.0	—2.89
Pearl River	22,698	1.4	—5.07	23,562	1.5	3.81
Perry	7,714	0.5	9.51	7,692	0.5	—0.29
Pike	23,589	1.5	3.99	24,061	1.5	2.00
Pontotoc	14,023	0.9	0.17	13,823	0.9	—1.43
Prentiss	14,663	0.9	—1.60	15,221	0.9	3.81
Quitman	7,233	0.5	—22.86	7,220	0.5	—0.18
Rankin	51,523	3.2	3.36	52,976	3.3	2.82
Scott	15,325	1.0	1.91	15,193	0.9	—0.86
Sharkey	4,547	0.3	2.55	4,598	0.3	1.12
Simpson	15,737	1.0	2.97	15,960	1.0	1.42
Smith	10,487	0.7	—0.41	10,281	0.6	—1.96
Stone	7,049	0.4	—4.72	7,473	0.5	6.02
Sunflower	17,492	1.1	—0.96	16,973	1.1	—2.97
Tallahatchie	9,168	0.6	—1.31	8,907	0.6	—2.85
Tate	11,871	0.7	—0.63	12,038	0.7	1.41
Tippah	12,815	0.8	1.97	12,626	0.8	—1.47
Tishomingo	12,763	0.8	—7.80	13,357	0.8	4.65
Tunica	4,763	0.3	—9.74	4,873	0.3	2.31
Union	14,822	0.9	—3.28	15,129	0.9	8.82
Walthall	9,562	0.6	2.61	9,506	0.6	—0.59
Warren	34,386	2.1	2.31	34,442	2.1	0.45
Washington	40,361	2.5	—0.34	39,575	2.5	—1.95
Wayne	11,624	0.7	—1.85	12,069	0.8	3.83
Webster	7,477	0.5	—1.02	7,467	0.5	—0.13
Wilkinson	5,953	0.4	6.21	5,979	0.4	0.44
Winston	13,343	0.8	1.88	13,041	0.8	—2.26
Yalobusha	8,134	0.5	0.41	8,198	0.5	0.79
Yazoo	16,557	1.0	2.18	16,504	1.0	—0.32
State Total	1,607,965		0.13	1,616,718		0.54

APR 9 1982 K 3255-2

MISSISSIPPI BUSINESS REVIEW

$3.50

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Return Postage Guaranteed

Second Class Postage Paid at
Mississippi State, Mississippi 39762

Dr. Eugene H. Fox

Cynthia G. Montcalm

Dr. Hoyet Wilson

Dr. Fox is the Coordinator, Special Projects and Professor of Economics in the College of Business Administration, at Northeast Louisiana University, Monroe, Louisiana.

Miss Montcalm is a Finance/Commercial Banking major in the College of Business Administration at Northeast Louisiana University, Monroe, Louisiana.

Hoyet Wilson is an Associate Professor in Business Administration at Laredo State University. He holds a Ph.D. in Finance from North Texas State University, is a Certified Public Accountant (Texas and Oregon), and holds the Certificate in Management Accounting. He has six years teaching experience and has published numerous articles.

TABLE OF CONTENTS

The Chief Executive Officers (CEO's) of Arkansas, Mississippi and Tennessee Banks—A Comparative Analysis 3
Indexes of Selected Mississippi Economic Indicators 11
New and Expanded Industry 8
The Income Capital Certificate—Hybrid Equity Security for S & L's 9
Tourist Briefs 12
Meet the Faculty: Dr. Walter B. Newsom 14
Meet the Faculty: Dr. H. Stan Banton 15
Employment, Unemployment and Wages Status of the Labor Force 16
State Economic Indicators 17
Business Activity By City 18
SMSA 19
Retail Sales Tax By County (000's) 20

VOLUME XLIII MARCH, 1982 NUMBER 9

James D. McComas, Ph.D.
President, Mississippi State University
Gaines M. Rogers, Ph.D.
Dean, College of Business and Industry
Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing
Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics

Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics

Louis M. Capella, D.B.A.
Editorial Advisor

Orris L. Odom, II, Ph.D.
Editorial Advisor
Gary A. Williams, D.B.A.
Editorial Advisor

Donna M. Reddish
Assistant Editor
Dale Adams
Secretary
Diane Dendy
Secretary

Sadia Al-Jibouri, M.B.A.
Research Assistant

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

The Chief Executive Officers (CEO's) of Arkansas, Mississippi and Tennessee Banks—A Comparative Analysis!

by
Dr. Eugene H. Fox and Cynthia Montcalm

The typical CEO in Arkansas, Mississippi, and Tennessee Banks is in his early "fifties;" has earned a degree in "Business;" and has been a CEO for approximately a decade!

INTRODUCTION

Business media has given considerable attention to the chief executive officers (CEO's) of large corporate entities. Attention is obviously merited, as stated in Business, "when we realize that the 200 largest manufacturing corporations control approximately 60 percent of the assets in manufacturing we can appreciate the strategic position held by the CEO of any of these firms." The article asks, "what type of individual rises. . .the corporate ladder?. . .the media frequently publish studies...of corporate presidents ...profiles." Generally the profiles of CEO's, appearing in the media, display their background — education, employments, age and tenure characteristics. This paper will show consistency with business media articles by compiling CEO's background profiles which display various characteristical factors of employments, education, age and tenure. However, the thrust and purpose of this paper is to develop these CEO's profiles in a regional area—Arkansas, Mississippi, and Tennessee—and in a narrowed business sector—banking—rather than the nation-wide, multi-business sector basis incorporated in most business media articles. Primarily, the displayed background profiles of the banking CEO's in the tri-state area of Arkansas, Mississippi and Tennessee will be compared to determine whether a degree of similarity exists. The tables (displays) presented in this paper have been designed to be virtually self-explanatory; consequently, discussion will be limited, permitting the reader to examine the tables and make self-deductive analysis.

DATA SOURCES

The **American Bank Directory** lists the names and addresses of the state and national banks in Arkansas, Mississippi, and Tennessee along with brief financial and personnel data of the banks. The CEO of each bank, excluding branches, is identified by the **Directory**. Questionnaires covering employment background, education, and tenure were sent to the identified CEO's. Of 617 identified chief executive officers in the tri-state area, as shown in Table 1, over three-fourths (75.7 percent) returned the questionnaires—somewhat less than two-thirds (65 percent) of the questionnaires were fully complete. Characteristic data compiled from the completed returned questionnaires provide the data base of this paper.

Employment Background—Mobility/Stability

The employment background of the tri-state banking CEO's, displayed in Table 2, reveals a striking similarity among the bankers in the three states. In each state, over forty-two percent (see "0"

TABLE 1. QUESTIONNAIRE RESPONSE BY CEO's IN TRI-STATE AREA:

	Arkansas		Mississippi		Tennessee		Total	
	No.	%	No.	%	No.	%	No.	%
Sent	264	——	179	——	174	——	617	——
Returned	185	70.1	129	72.1	153	87.9	467	75.7
Returned (Complete)	152	57.6	109	60.9	140	80.5	401	65.0

TABLE 2. FULL-TIME BANKING EMPLOYMENTS PRIOR TO BANKING:

Employments:	0	1	2	3	4+	Total
Arkansas						
CEO's in study	65	37	28	14	8	152
Percent	42.8	24.3	18.4	9.2	5.3	100%
		(---42.7%---)				
		(---------------57.2%---------------)				
Mississippi						
CEO's in study	46	33	18	6	6	109
Percent	42.2	30.3	16.5	5.5	5.5	100
		(---46.8%---)				
		(---------------57.8%---------------)				
Tennessee						
CEO's in study	59	33	32	10	6	140
Percent	42.1	23.6	22.9	7.1	4.3	100%
		(---46.5%---)				
		(---------------57.9%---------------)				
Total						
CEO's in study	170	103	78	30	20	401
Percent	42.4	25.7	19.5	7.5	4.9	100%
		(---45.5%---)				
		(---------------57.9%---------------)				

column) of the responding CEO's entered initial full-time employment directly in the banking field with no full-time employment experience external to banking. Conversely, in all three states, just somewhat less than fifty-eight percent had experienced initial full-time employment outside of banking. Again, in each state, the CEO's non-banking employment experiences were similarly limited—initial non-banking employment tended to be only one or two employments (Arkansas, 42.7 percent; Mississippi, 46.8 percent; Tennessee, 46.5 percent). The table, therefore, reveals that most CEO's in the study area were not highly mobile employment-wise prior to entering the banking field.

The extent of mobility once employment in banking occurred is shown in Table 3 which displays the "moves" the CEO's made between banks. After the CEO's initial employment in banking, although there was some dis-similarity, the degrees of similarity is more apparent (e.g., 44% of Arkansas's

TABLE 3. NUMBER OF BANKS CEO's WERE EMPLOYED BY:

	1	2	3	4+	Total
Arkansas					
CEO's in study	61	41	29	21	152
Percent	40.1	27.0	19.1	13.8	100%
	(----67.1%----)				
Mississippi					
CEO's in study	49	24	21	15	109
Percent	44.9	22.0	19.3	13.8	100%
	(----66.9%----)				
Tennessee					
CEO's in study	55	48	23	14	140
Percent	39.3	34.3	16.4	10.0	100%
	(----73.6%----)				
Total					
CEO's in study	165	113	73	50	401
Percent	41.1	28.2	18.2	12.5	100%
	(----69.3%----)				

CEO's had had employment with only one bank; 44.9% in Mississippi; 39.3% in Tennessee). It is, perhaps, most important to note that between two-thirds (66.9 percent—Mississippi) and approximately three-fourths (73.6 percent—Tennessee) of the CEO's have had employment with only one or two banks.

Inasmuch as employment mobility among the CEO's with non-banking employment experience (see Table 2) appears relatively limited, and once banking employment incurred (see Table 3) mobility is not highly visible, a characteristic of employment stability rather than mobility is similarly representative of the CEO's in the three states.

Education: Academic and Professional

The responding CEO's in the three state area, have had extensive formal training, both, academic and professional. The extent of their academic education appears in Table 4. When observing the percent of the CEO's who have earned a bachelor's degree or attended college, a close degree of similarity is viewed, ranging from 87.9 percent—Tennessee, to 91.7 percent—Mississippi. Although, if observing only the CEO's who have earned a bachelor's degree a "spread" of dis-similarity is noticed, ranging from 59.3 percent holding a bachelor's degree in Tennessee to 70.6 percent holding bachelor's degrees in Mississippi—Arkansas, approximately midway in the range, having 65.8 percent. Arkansas (11.8%) and Tennessee (12.1%) were "more similar" as to the percent of CEO's who had not attended college as compared to Mississippi with only 8.3 percent having "no college." Even though a strong majority of the CEO's in the three state region have received academic training, professional training (education) has also been sought by a large majority. Table 5 displays the professional education attainments of the CEO's in Arkansas, Mississippi and Tennessee. In viewing the CEO's professional education (Table 5) as compared with academic education (Table 4) an interesting observation is to be noted—Tennessee (66.4%) has the largest percentage holding one or several (Two+) professional certificates or degrees and Mississippi (57.8%) has the smallest percentage thus reversing the positions of these two states which existed in academic background (see Table 4). In either academic background (Table 4) or professional education (Table 5), Arkansas's banking CEO's ranged in between the CEO's of her sister states. Likewise, it is of interest to note that Tennessee (33.6 percent had the least number of CEO's who had not earned any professional certificate or degree; Mississippi (42.2 percent) had the larger percent; Arkansas (35.5 percent) was, again, in the middle position.

TABLE 4. ACADEMIC BACKGROUND OF BANKING CEO's:

	Bachelor's Degree	Attended College	No College	Total
Arkansas				
CEO's in study	100	34	18	152
Percent	65.8	22.4	11.8	100%
	(------88.2%------)			
Mississippi				
CEO's in study	77	23	9	109
Percent	70.6	21.1	8.3	100%
	(------91.7%------)			
Tennessee				
CEO's in study	83	40	17	140
Percent	59.3	28.6	12.1	100%
	(------87.9%------)			
Total				
CEO's in study	260	97	44	401
Percent	64.8	24.2	11.0	100%
	(------89.0%------)			

TABLE 5. PROFESSIONAL EDUCATION OF CEO's.

	Number of Degrees of Certificates			Total
	None	One	Two	
Arkansas				
CEO's in study	54	61	37	152
Percent	35.5	40.1	24.4	100%
		(-----64.5%-----)		
Mississippi				
CEO's in study	46	31	32	109
Percent	42.2	28.4	29.4	100%
		(-----57.8%-----)		
Tennessee				
CEO's in study	47	59	34	140
Percent	33.6	42.1	24.3	100%
		(-----66.4%-----)		
Total				
CEO's in study	147	151	103	401
Percent	36.6	37.7	25.7	100%
		(-----63.4%-----)		

Previously, in Table 4, it was displayed that one hundred of the responding Arkansas CEO's had earned a bachelor's degree; seventy-seven of the Mississippi respondees; and eighty-three of the Tennessee respondees. It is of interest, therefore, to examine the "academic colleges" and the "academic programs" wherein these degrees were earned and discern any

TABLE 6. ACADEMIC COLLEGE ATTENDED BY BANKING CEO's:

	Lib. Arts	Laws	Pure & Ap. Sci.	Engineering	Bus. Adm.	Other*	Total
Arkansas							
CEO's in study	10	5	4	4	72	5	100
Percent	10.0	5.0	4.0	4.0	72.0	5.0	100%
Mississippi							
CEO's in study	6	8	4	2	48	9	77
Percent	7.8	10.4	5.2	2.6	62.3	11.7	100%
Tennessee							
CEO's in study	18	4	5	2	50	4	83
Percent	21.7	4.8	6.0	2.4	60.3	4.8	100%
Total							
CEO's in study	34	17	13	8	170	18	260
Percent	13.08	6.54	5.0	3.08	65.4	6.9	100%

*Representative degrees are: agriculture, education, etc.

similarity among the responding CEO's. Table 6 reveals the academic college attended by the CEO's bachelor degree-holders. One can discern certain dissimilarities regarding the percentages of the CEO's earning degrees in the particular academic colleges, for example, in Liberal Arts, ten percent of the Arkansas CEO's earned a Liberal Arts degree, less than eight percent (7.8%) in Mississippi and almost twenty-two percent (21.7%) in Tennessee—overall; the three state's average was just over thirteen percent (13.08%)—making Liberal Arts second among all the degrees in overall percentage ranking. However, there were many relatively close similarities (e.g., the degrees earned in the college of Pure and Applied Sciences—Arkansas, 4%; Mississippi, 5.2%; Tennessee, 6%; overall, 5%). The striking similarity which starkly stands out is the exceptionally strong majority of the CEO bachelor degree-holders in Business Administration in each of the three states. Although the percent of the banking CEO's who earned a "Business" degree did vary from just over sixty percent (60.3%) in Tennessee to seventy-two percent (72.0%) in Arkansas, with Mississippi just over sixty-two percent (62.3%), it remains the noticeable and outstanding similarity.

Since a preponderant majority of the three-state banking CEO's earning bachelor's degrees earned the degrees in "business," it is meaningful to determine the program area within the business degree designation pursued by the CEO's and observe similarities and/or dis-similarities. Table 7 views the program areas in which the CEO's business degree-holders concentrated. A quick perusal of the table will discern that the overall majority of the CEO business degree-holders concentrated in four program areas—the composite finance and banking program (30.6%), general business (22.9%), Economics (14.7%), and accounting (13.5%). Individually, by state, the majority of the CEO's with a business degree had earned the degree either in finance and banking (Mississippi and Tennessee) or in general business (Arkansas). Further examination of the table finds varied similarities, percentagewise, among the CEO's of the three state area int he business degrees earned.

Age and Tenure

Age and tenure of corporate CEO's have been apprehensively viewed in leading business publications. A **Business Week** article expressed concern that "the age at which a person becomes chief executive. . .can have a substantial effect on how that person plans. Achieving a top. . .position in one's late fifties. . .is very different from taking over at age forty-five." The article went on to suggest that the appointment of a younger CEO would be better and that the younger CEO would be more productive.

The age pattern, displayed in Table 8, is in "harmony" with the earlier appointment age suggested in **Business Week**. In quite similar pattern, the banking CEO's in all three states, were appointed to the chief executive position at a relatively young age—the late 30's (Tennessee) and the early 40's (Arkansas and Mississippi). Numerous similarities among the tri-state banking CEO's can be drawn from

TABLE 7. BUSINESS DEGREE-HOLDERS CONCENTRATED IN:

	Mgt./ Admn.	Mktg.	Gen. Bus.	Actg.	Econ.	Fin./ Bnkg.	Other	Total Bus. Degrees
Arkansas								
CEO's in study	4	6	23	6	13	19	1	72
Percent	5.6	8.3	31.9	8.3	18.1	26.4	1.4	100%
Mississippi								
CEO's in study	4	4	5	9	5	18	3	48
Percent	8.3	8.3	10.4	18.8	10.4	37.5	6.3	100%
Tennessee								
CEO's in study	4	3	11	8	7	15	2	50
Percent	8.0	6.0	22.0	16.0	14.0	30.0	4.0	100%
Total								
CEO's in study	12	13	39	23	25	52	6	170
Percent	7.1	7.7	22.9	13.5	14.7	30.6	3.5	100%

the table—the CEO's average age of employment in their respective present bank was either 33 or 34; their average age when first employed in the banking industry ranged narrowly in the middle 20's, from 24 (Tennessee) to 28 (Mississippi) with Arkansas "fitting-in" midway at 26. The CEO's present average age ranges quite narrowly from the late 40's (Tennessee, 48) to the early 50's (Arkansas, 50; Mississippi, 52); thus, according to the **Business Week** article, this would suggest that they are "productive." In each of the three states, tenure in the CEO position has been either a decade (Mississippi, 10) or approaching a decade (Arkansas, 8; Tennessee, 7). All the CEO's, in their respective states, have averaged an identical near quarter-century (24 years) in tenure or experience in the banking industry. State by state, it is interesting to observe that approximately one-half of their tenure with their present bank has been in the role of its CEO—for example, Arkansas CEO's have average 17 years with their present bank, 8 years as the CEO; similarly with the Mississippi and Tennessee CEO's.

TABLE 8. CEO's AGE AND TENURE CHARACTERISTICS:

	Arkansas	Mississippi	Tennessee
Age (mean) when first:			
appointed to CEO position	42	41	39
employed by present bank	33	34	33
employed in banking industry	26	28	24
Present Age:	50	52	48
Years (mean) of tenure:			
in CEO position	8	10	7
with present bank	17	18	15
in banking industry	24	24	24

Summary

The introductory statements of this paper informed that there was no intent to delve into extended and detailed examination of the similarities which may exist in a background analysis among the CEO's of the three-state study area—such details, if wished, could be self-explored by the reader. The intent of this paper—to display and examine some of the major similarities which seemingly exist among the tri-state banking CEO's—has been presented; some attention was also directed toward a number of the observable dis-similarities.

In summary, the background profile comparison of the banking CEO's in Arkansas, Mississippi, and Tennessee shows a striking pattern of similarity in a number of characteristics.

Employment stability—Tables 2 and 3 displayed that the banking CEO's in each of the states were remarkably similar in employment stability whether prior to employment in the banking industry or after entry into the banking industry.

Education—Tables 4 and 5 revealed close similarity existed among the tri-state CEO's in both academic and professional education attainment. Table 6 displayed a striking similarity in that a very strong majority of the CEO's in each state earned a degree from a "College of Business." Table 7 revealed that of the CEO business degree-holders, in all three states, the business degrees were concentrated in the four program areas of finance and banking, general business, accounting or economics.

Age and Tenure—Table 8, revealed the striking similarity that the CEO's in the study area had a near-quarter century (24 years) experience/tenure in the banking industry, there was equally close similarities in age when first employed by their present bank. Other close similarities existed in regard to age when appointed to the chief executive officer position and tenure within the CEO position.

In short, the following descriptive set of characteristical attributes would adequately depict the average banking CEO of either Arkansas, Mississippi, or Tennessee: The chief executive officer (CEO) typically is young—fifty years of age or less. The CEO has a near quarter-century of experience in banking; most of this employment experience has been with the present bank where the CEO has held that position for approximately a decade. The typical CEO has earned a bachelor's degree, most likely in "business" and, in addition, has probably earned one or more professional certificates or degrees.

FOOTNOTES

[1] "The CEO: Beginnings and Backgrounds," **Business**, September-October, 1980, p. 15.

[2] Ibid.

[3] The detailed analyses that can be developed and presented in this paper would demand an extended monograph.

[4] **American Bank Directory**, fall edition, 1981; McFadden Business Publications, Norcross, Georgia.

[5] **Business Week**, December 3, 1979, p. 14.

NEW AND EXPANDED INDUSTRY

Town	Firm	Product	No. of Employees
NEW			
Jackson	**American Stair**	Stair Systems	30
Jackson	**Ludlow Saylor**	Woven Wire	30
Olive Branch	**Cambridge Plan International**	Diet Food	200
Olive Branch	**Nissan Motor Corp.**	Assembly-Distribution of Datsun Parts	35
Rosedale	**Fine Vines**	Blue Jeans	112
Starkville	**Fesco, Inc.**	Forestry Equipment	10
EXPANDED			

No expansions were announced in January.

NEW MONTHLY INDICATOR OF BUSINESS ACTIVITY

It is a pleasure to announce that the April Issue of MISSISSIPPI BUSINESS REVIEW will contain a new indicator of business activity. The new monthly indicator is made possible through the cooperation of the Mississippi State Tax Commission. The Commission provides the Division of Research with monthly computer print-outs which show, among other things, sales tax collections and indicated sales. These data are structured by county and will be published every month for all eighty-two Mississippi Counties. It is important to note that "indicated sales" means the sum of both wholesale and retail sales, and as such, will provide a sensitive barometer of business activity in each county.

During the first twelve months of publication, tax collections and indicated sales will be published in thousands of dollars on a seasonally unadjusted basis. Beginning with the second year, the per cent change from the previous month and the previous year will be included. As quickly as adequate historical data have been accumulated, a seasonal adjustment will be used.

This new monthly indicator of business activity represents the continuing effort of the MISSISSIPPI BUSINESS REVIEW to provide accurate and recent information to users about business activity in Mississippi.

—The Editor

The Income Capital Certificate— Hybrid Equity Security for S & Ls

by

Hoyet Wilson, Ph.D., CPA

Purpose of the Paper

The purpose of this paper is to examine a unique financial instrument in the savings and loan industry—the income capital certificate. The income capital certificate is a new, hybrid equity security issued by a savings and loan association to the Federal Savings and Loan Insurance Corporation (FSLIC) in exchange for cash or cash-equivalent notes. The income capital certificate is a unique financial instrument resulting from capital injections to ailing savings and loan associations by the FSLIC.

Mechanics of the Income Capital Certificate

There are two principal parties to the income capital certificate. The mechanics of the instrument are illustrated in Figure 1. A savings and loan association is in need of a capital injection. The FSLIC provides aid in the form of cash or cash-equivalent notes. The savings and loan association in turn issues an income capital certificate to the FSLIC, agreeing to repay the corporation's loan with interest when and if the savings and loan association's financial position improved, the FSLIC might sell the income capital certificate to investors thereby creating a secondary market. The total payment an S & L would remit to the FSLIC in any year would not exceed 75% of the S & L's net income.[1]

For illustrative purposes assume the XYZ Savings and Loan Association receives $1,000,000 in cash from the FSLIC and issues a corresponding income capital certificate in the amount of $1,000,000. The XYZ Savings and Loan Association would journalize the transaction as follows:

Cash	$1,000,000	
Income capital Certificates		$1,000,000

To record receipt of cash from FSLIC and issuance of income capital certificate.

The debit is to an asset account. The credit, as will be discussed later, is to an equity account.

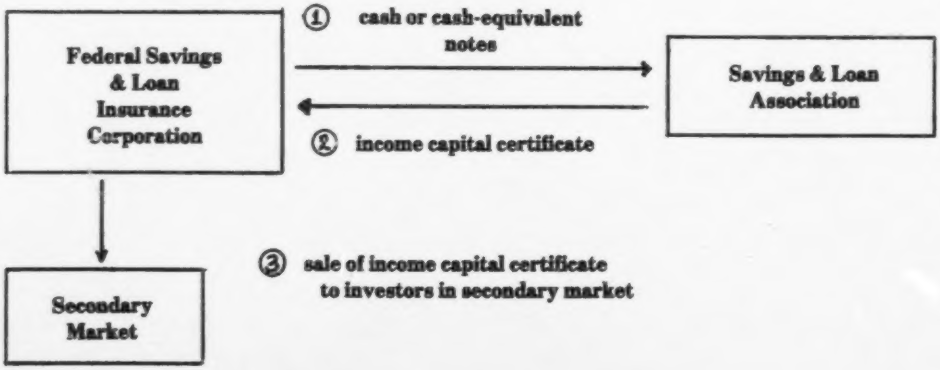

Federal Savings & Loan Insurance Corporation
① cash or cash-equivalent notes
Savings & Loan Association
② income capital certificate
Secondary Market
③ sale of income capital certificate to investors in secondary market

Figure 1. Mechanics of an Income Capital Certificate.

The income capital certificate is so named because the instrument is in certificate form, it results from a capital infusion by the FSLIC, and it is repaid when and if the savings and loan association generates net income.

The Case of Debt v. Equity

The income capital certificate is a hybrid equity security. Though the certificate carries no voting rights and does not allow the FSLIC to share in any part of the S & L's residual assets in case of dissolution, the Federal Home Loan Bank Board (Board) considers the income capital certificate to be equity. In Board regulations the following position is stated:[2]

> The Board has directed a comprehensive staff study of the accounting and legal attributes of these securities that may be issued by the FSLIC. Based on the results of that study, the Board has concluded that when such securities are in the nature of permanent equity, they are eligible for treatment as both reserves and net worth under governing statutes. . .The Board has received confirmation of this conclusion of the staff study from outside consultants who are experts in the accounting field.

Income capital certificates thus constitute a part of the S & L's reserves and net worth.

The Board defines permanent equity capital to include income capital certificates as a generally accepted accounting principle.[3]

> Since the current version of the Board's regulatory definition net worth does not expressly provide for inclusion of securities of this type, the Board is amending Section 561.13 to include securities that it and the FSLIC approve as constituting permanent equity capital in accordance with generally accepted accounting principles.

Repayments of income capital certificates may be compared to preferred stock redemptions.[4] The certificate provides the holder, in this case the FSLIC, with a fixed return. Repayments represent the cancellation (i.e., retirement) of equity capital. For these reasons repayments on income capital certificates are similar to preferred stock redemptions.

The Income Capital Certificate and the Mutual Capital Certificate

The income capital certificate is one of a series of new equity certificates for the savings and loan industry. Another new financial instrument is the mutual capital certificate. The income capital certificate is a hybrid equity security issued by an ailing savings and loan association to the FSLIC for cash or cash-equivalent notes. The mutual capital certificate is a preferred equity security issued by a mutual savings and loan association to a private investor for cash. Thus, both securities provide an S & L with a capital infusion.

The income capital certificate and the mutal capital certificate are comparable in some respects.[5] Both instruments are **equity securities**. The income capital certificate is a hybrid equity security. The mutual capital certificate is a preferred equity security. Thus, both instruments provide equity capital.

The income capital certificate and the mutual capital certificate are also **includable in statutory reserves**. Mutual capital certificates redeemable pursuant to a ten-year or more schedule are included in statutory reserves at 20-percent of their aggregate value. Nonredeemable mutual capital certificates are included in statutory reserves at their full, aggregate value.[6] Thus, both securities increase statutory reserves of a S & L.

Neither the income capital certificate nor the mutual capital certificate is convertible into another type of security. A mutual capital certificate as a preferred equity security is not convertible into common stock, i.e., there can be no downstream recapitalization. Thus, both instruments are **nonconvertible equity securities**.

The income capital certificate and the mutual capital certificate are dissimilar in some respects. The **purchaser** of the income capital certificate is the FSLIC, while the purchaser of the mutual capital certificate is a private investor. Thus, each instrument is sold to a different type of investor.

The income capital certificate conveys no **voting rights** to the FSLIC. The mutual capital certificate may grant voting rights to the private investor. Thus, one instrument conveys voting rights while the other instrument does not convey voting rights.

The income capital certificates and the mutual capital certificate are compared in Table I.

TABLE 1.
A COMPARISON OF THE INCOME CAPITAL CERTIFICATE AND THE MUTUAL CAPITAL CERTIFICATE

	Income Capital Certificate	Mutual Capital Certificate
Type	Hybrid equity	Preferred equity
Purpose	To provide capital infusion	To provide capital infusion
Status as to Statutory Reserves	Includable	Includable
Convertibility into Other Securities	Nonconvertible	Nonconvertible
Purchaser of Security	FSLIC	Private investor
Voting Rights	None	Optional

Tax Aspects of the Income Capital Certificate

A savings and loan association selling income capital certificates to the FSLIC may exclude the proceeds from gross income.[7] This is a special feature of the Economic Recovery Tax Act of 1981, which states:

> Gross income of a domestic building and loan association does not include any amount of money or other property received from the Federal Savings and Loan Insurance Corporation pursuant to section 406(f) of the National Housing Act [12 U.S.C. sec. 1729(f)], regardless of whether any note or other instrument is issued in exchange therefor.

Proceeds from the sale of income capital certificates are excludable from gross income.

The Economic Recovery Tax Act of 1981 also provides there is no reduction in the basis of an S & L's assets for money received from the FSLIC. The Act states:

> No reduction in the basis of assets of a domestic building and loan association shall be made on account of money or other property received under the circumstances referred to in subsection (a).

The basis of an S & L's assets is unchanged by money received from the FSLIC.

Summary and Conclusions

The income capital certificate is a hybrid equity security issued by an ailing savings and loan association to the FSLIC in return for cash or cash-equivalent notes. The S & L's asset base is increased by the cash or cash-equivalent notes and the S & L's equity base is increased by the income capital certificate principal. The income capital certificate represents an alternative to direct government bailouts. Should an association fail even with government aid, the FSLIC loses the amount of its assistance, just as in a straight cash infusion. With the income capital certificate approach the FSLIC stands to recoup its investment plus interest if the association prospers. For these reasons the income capital certificate is a unique approach to providing Federal assistance to the savings and loan industry.

FOOTNOTES

[1] "New Plan to Aid S & Ls Is Adopted by Bank Board," **The Wall Street Journal**, September 8, 1981, p. 10.

[2] "Securities Constituting Permanent Equity," Federal Home Loan Bank Board (12 CFR Parts 523, 561, No. 81-516)

[3] **Ibid.**

[4] Walter B. Meigs et al., **Intermediate Accounting** (New York: McGraw-Hill, 1978) pp. 815-816.

[5] Hoyet Wilson, "Mutual Capital Certificates—The Preferred Stock for Mutuals," **American Banker** (New York: American Banker, Inc.) Vol. CXLVI,No. 92, May 11, 1981

[6] 12 **CFR** Sec. 561.13 and Sec. 563.13

[7] "Economic Recovery Tax Bill of 1981," **Standard Federal Tax Reports**, No. 39, August 3, 1981, p. 89 (Chicago:CCH, 1981) Sec. 244.

* * *

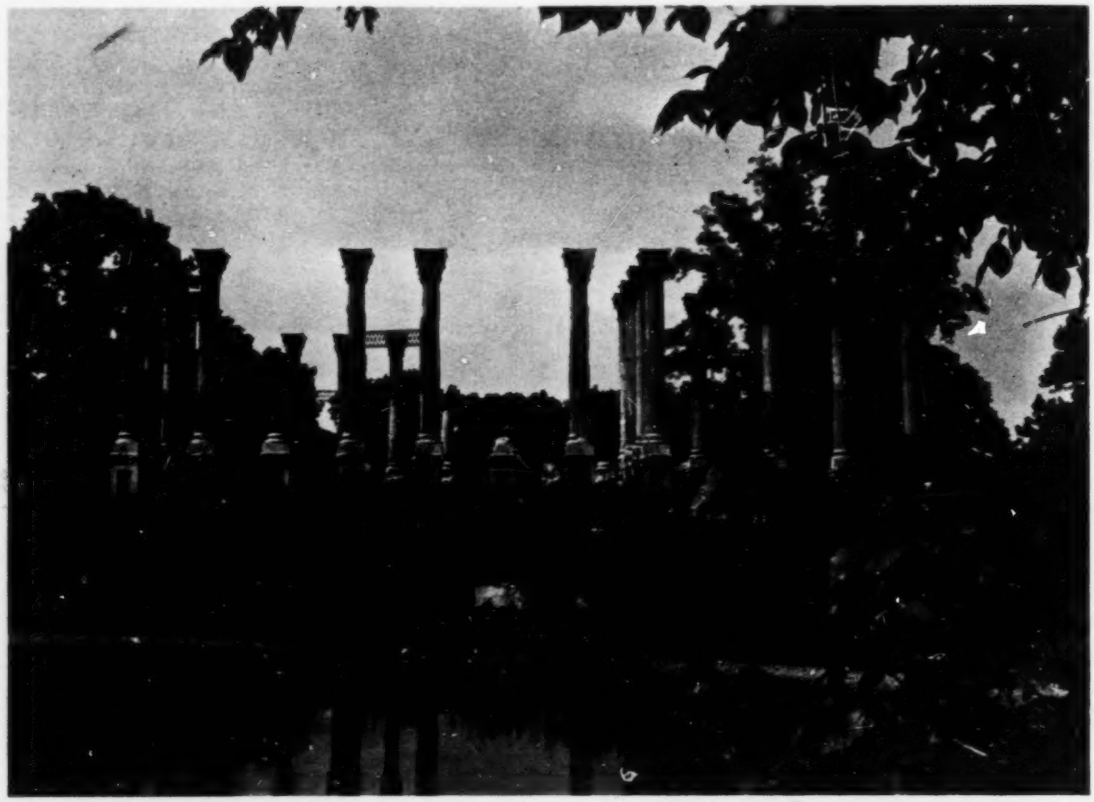
INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS
[Seasonally Adjusted]
1969=100

Indicator	January 1982	December 1981	January 1981
Retail Sales	167.9	164.1	176.7
Electric Sales	200.6	196.2	209.1
Telephones in Service	231.4	231.3	227.0
Gasoline Gallonage	153.5	158.8	146.1
Loans of Savings & Loan Institutions	40.3	75.4	267.2

Tourist Briefs

"Windsor Ruins"

Claiborne County, Mississippi



Windsor was in the raised Greek Revival style with fully finished basement, two residential floors, and an attic. Twenty-nine columns, thirty feet high with ten-foot paneled stucco plinths, supported the projecting roofline with its plain, broad frieze and molded cornice, providing protection for the galleries which encompassed the house at the second and third levels. The fluted stucco-over-brick columns had iron Corinthian capitals and were joined at the galleries by an ornamental iron balustrade. Three flights of iron stairs provided access to the raised second floor on the facade (west elevation) and on each side, and a fourth led up to the ell on the east. Fenestration in the main block consisted of floor-length windows on the residential stories and shorter ones in the basement, and spacing was symmetrical on all floors: four across front and rear and six on each side elevation. Doorways were centered and those on the second and third floors were formally treated with elliptical fanlights with radial muntins and rectangular panes in the side lights. A square-shaped cupola was centered atop the hipped slate roof, its glass walls recessed beneath extended eaves which were supported at the corners by three miniature Corinthian columns, reinforcing the stylistic impact of the main block below. The eight chimneys were uniformly simple stacks and, despite their number, a minimum intrusion on the temple effect.

Windsor contained a total of twenty-three rooms and three hallways, with the floor plan of the main block consisting of central hallways with three rooms (measuring approximately 19 feet by 20 feet) on each side. The basement was given over to such utilitarian functions as dairy, store rooms, commissary, schoolroom, and doctor's office. The second floor on the south side of the hall contained double parlors and the library, and on the north was the master suite: bedrooms, study, and bath. The third floor consisted of bedrooms and a second bath, and both baths were supplied with rainwater piped from the attic, where it was stored in tanks eight feet wide, twenty feet long, and five feet deep. The basement floor of the ell contained the kitchen and the secondary stairs; the dining room, with pantry and dumb waiter, was located directly above; and on the third floor were three bedrooms. The interior features of Windsor included a spiral staircase offset in the rear of the hallway and twenty-five mantelpieces made of Georgia and Tennessee marble, as well as two marble bathtubs. Ebony-framed mirrors surrounded the dark marble of the library mantelpiece, and chandeliers, floor-to-ceiling mirrors, and red draperies lined with white silk were included in the decor of the parlors.

The builder of Windsor, Smith Coffee Daniell, II, was born in Mississippi in 1826, the son of an Indian fighter turned farmer and landowner. His own holdings were so vast (eventually totaling 21,000 acres in Mississippi and Louisiana) that he studied law at the University of Virginia in order to better administer his estates. In 1849 he was married to his cousin Catherine Freeland (1830-1903), by whom he had six children, and in 1859 he began building Windsor. Basic construction was done by slave labor, and the 16-inch bricks for the walls were made at a kiln across the road from the house. Skilled carpenters were brought from New England for the finished woodwork, and the iron stairs, column capitals, and balustrades were manufactured in St. Louis and shipped down the Mississippi River to the port of Bruinburg, several miles west of Windsor. Daniell died at age 34 on April 28, 1861, only weeks after completing his home at a cost of $175,000.00.

During the Civil War, Windsor reputedly was used as an observation post by the Confederates, who sent signals from its cupola across the Mississippi River to Louisiana. It is also said to have served as a Union hospital after the Battle of Port Gibson in May, 1863, its mistress having dissuaded Federal troops from burning it.

Windsor remained the home of the Daniell family until February 17, 1890, on which date a fire broke out after a house guest accidentally dropped cigarette ashes into debris left by carpenters making repairs to the third floor. All was destroyed except a few pieces of china and the columns, balustrades, and iron stairs (one flight of stairs and some sections of balustrade are now installed at the chapel of nearby Alcorn College). The property was inherited by a daughter of Smith Coffee Daniell, II, Priscilla (1850-1932), who had been married at Windsor on December 13, 1888, to Joseph Moore Magruder. It next passed to Priscilla's niece, Katherine Daniell Magruder, whose heirs were the present owners: Thomas Daniell Magruder, John Martin Magruder, Robert Walter Magruder, and Samuel Bertron Magruder. The family cemetery located a mile north of the ruins contains the graves of Smith Coffee Daniell, I, II, and III, their wives and a number of children, Catherine Magruder Skinner (grandmother of Smith II and his wife), and Frisby Freeland (Revolutionary War soldier and father of Catherine Freeland Daniell).

The original floor plans and only known photographs of Windsor were destroyed in the 1890 fire, but the appearance of the house has been reconstructed from data supplied by Smith Coffee Daniell, IV (1885-1970), grandson of the builder. Mr. Daniell, who was born at Windsor and lived there until it burned, presumably relied on his own recollections, family tradition, and his professional training as a civil engineer to produce a physical description and layout of the house. The material is deposited with the Mississippi Department of Archives and History, and no other primary documentation is known to exist. Of the twenty-nine original columns, twenty-two remain standing today, evoking the grandeur as well as defining the dimensions of what was the ultimate expression of residential Greek Revival architecture in antebellum Mississippi. In order to preserve the ruins, the Port Gibson-Claiborne County Historical Society sponsored in 1970 a stabilization program which included sandblasting, waterproofing, and removal of cedar trees which grew atop the capitals.

Source: **Department of Archives and History, Jackson, Mississippi.**

MEET THE FACULTY

Dr. Walter B. Newsom

Department of Management

Dr. Walter B. Newsom is an Associate Professor of Management at Mississippi State University.His BA is from the University of Michigan in Geology and his Masters of Business Administration and Doctor of Philosophy are from the University of Missouri in Columbia.

After completing his undergraduate degree, he was associated with Ithaca College in Ithaca, New York as Assistant Dean of the College of Arts and Sciences and as Director of Institutional Research. As a graduate student at the University of Missouri, he taught the Introductory Management course for several years and had a research assistantship his final year. Since arriving at Mississippi State in 1974, he has taught a wide variety of courses in the Management Department. He is primarily responsible for the Production and Operations Management course, but he has also taught the introductory course at both the undergraduate and graduate levels as well as Personnel Management and Organization Theory.

He is currently Secretary-Treasurer of the Academy of Management and on the Board of Governors of the Southern Management Association. He is also a member of the University Library Committee and the Curriculum Committee of Southern Association Institutional Self Study.

He has participated in Management Training programs for a variety of public and private organizations including the Department of Labor, the Department of Agriculture, and Georgia Pacific.

He has presented papers at the Academy of Management, Southern Management Association, Southwest Division of the Academy of Management and American Institute of Decision Sciences. He has had his work published in the **Academy of Management Journal** and in the **Mississippi Business Review**, and in the Business Policy textbook written by William Glueck.

His primary area of research interest is in individual and organization performance and effectiveness.

He and his wife, Ellen, are the parents of two children; a son, Matt, who is 15 and a daughter, Emily, who is 11. His major hobbies are sports of all types and gardening.

MEET THE FACULTY

Dr. H. Stan Banton

Department of Finance

DR. H. STAN BANTON. . .joined the faculty of Mississippi State University in September, 1980 as Associate Professor of Finance and Real Estate. He had previously taught Finance and Real Estate at the University of Tennessee and Ohio University. His principal responsibilities at MSU have been to teach the Real Estate courses and to develop the Real Estate program at the University.

Dr. Banton is a native of Union Springs, Alabama and received the Bachelors and Masters degrees from Auburn University. He then completed the Ph.D. degree in Economics at Georgia State University.

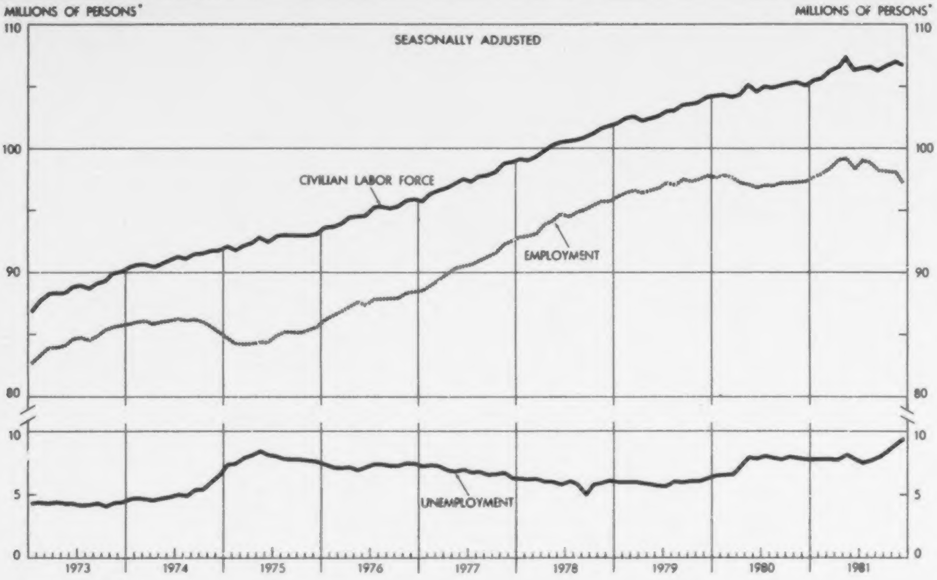
Professionally, Dr. Banton has concentrated on three areas—university teaching, research, and public service. Although he has taught all of the subareas in real estate, his primary areas of interest are real estate appraisal and real estate investment analysis. His research has been more specifically in the area of location analysis. Previous and current research has been accepted for publication in such journals as **The American Institute of Decision Sciences, The Annals of Regional Science, The Appraisal Journal,** and **Banking.** Because of his previous work in the real estate community Dr. Banton has received several commendations. He is an affiliate member of the Oktibbeha County Board of Realtors.

Dr. Banton is married to the former Carol Chesney of Knoxville, TN and has two children, Rob and Julie.

EMPLOYMENT, UNEMPLOYMENT, AND WAGES

STATUS OF THE LABOR FORCE

Seasonally adjusted employment fell 840,000 in December, while unemployment rose 460,000



*16 YEARS OF AGE AND OVER
SOURCE: DEPARTMENT OF LABOR

COUNCIL OF ECONOMIC ADVISERS

[Thousands of persons 16 years of age and over, except as noted]

Period	Noninstitutional population	Civilian employment	Unemployment	Total labor force (including Armed Forces)	Civilian labor force	Civilian employment				Unemployment		Labor force participation rate (percent) [2]
						Total	Agricultural	Nonagricultural		Total	15 weeks and over	
								Total	Part-time for economic reasons [1]			
1976	156, 048	87, 485	7, 288	96, 917	94, 773	87, 485	3, 297	84, 188	3, 272	7, 288	2, 340	62. 1
1977	158, 559	90, 546	6, 855	99, 534	97, 401	90, 546	3, 244	87, 302	3, 297	6, 855	1, 911	62. 8
1978*	161, 058	94, 373	6, 047	102, 537	100, 420	94, 373	3, 342	91, 031	3, 216	6, 047	1, 379	63. 7
1979	163, 620	96, 945	5, 963	104, 996	102, 908	96, 945	3, 297	93, 648	3, 281	5, 963	1, 202	64. 2
1980	166, 246	97, 270	7, 448	106, 821	104, 719	97, 270	3, 310	93, 960	3, 965	7, 448	1, 829	64. 3
1981	168, 578	98, 313	8, 080	108, 535	106, 393	98, 313	3, 312	95, 001	4, 397	8, 080	2, 241	64. 4
	Unadjusted			Seasonally adjusted								
1980: Dec	167, 396	97, 545	7, 233	107, 191	105, 067	97, 282	3, 394	93, 883	4, 218	7, 785	2, 378	64. 0
1981: Jan	167, 585	96, 128	8, 543	107, 668	105, 543	97, 696	3, 403	94, 294	4, 474	7, 847	2, 358	64. 2
Feb	167, 747	96, 383	8, 425	107, 802	105, 681	97, 927	3, 281	94, 646	4, 145	7, 754	2, 250	64. 3
Mar	167, 902	97, 318	8, 087	108, 305	106, 177	98, 412	3, 276	95, 136	4, 227	7, 764	2, 192	64. 5
Apr	168, 071	98, 282	7, 396	108, 851	106, 722	98, 976	3, 463	95, 513	4, 044	7, 746	2, 105	64. 8
May	168, 272	98, 803	7, 545	109, 533	107, 406	99, 235	3, 353	95, 882	4, 143	8, 171	2, 168	65. 1
June	168, 480	99, 341	8, 279	108, 307	106, 176	98, 392	3, 265	95, 127	3, 798	7, 784	2, 315	64. 3
July	168, 685	100, 474	7, 934	108, 603	106, 464	98, 962	3, 258	95, 704	4, 225	7, 502	2, 100	64. 4
Aug	168, 855	100, 013	7, 758	108, 762	106, 602	98, 944	3, 370	95, 574	4, 187	7, 657	2, 194	64. 4
Sept	169, 049	98, 277	7, 687	108, 401	106, 236	98, 270	3, 310	94, 959	4, 537	7, 966	2, 212	64. 1
Oct	169, 252	98, 902	8, 024	108, 894	106, 736	98, 217	3, 337	94, 880	5, 026	8, 520	2, 251	64. 3
Nov	169, 435	98, 393	8, 470	109, 187	107, 029	98, 025	3, 363	94, 662	4, 988	9, 004	2, 330	64. 4
Dec	169, 605	97, 442	8, 807	108, 814	106, 650	97, 188	3, 115	94, 072	5, 350	9, 462	2, 338	64. 2

[1] Persons at work. Economic reasons include slack work, material shortages, inability to find full-time work, etc.

[2] Total labor force as percent of noninstitutional population 16 years of age and over.

*Data beginning 1978 not strictly comparable with earlier data because of revisions in the household survey, which added about 250,000 to labor force and to employment.

Source: Department of Labor, Bureau of Labor Statistics.

STATE ECONOMIC INDICATORS

Indicator	January 1982[1]	December 1981[2]	January 1981[2]	Per Cent Change One Month Ago[3]	Per Cent Change One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	1,050,800	1,045,500	1,032,200	0.5	1.8
Non-Ag Employment	806,900	822,000	815,900	— 1.8	— 1.1
Mining	12,800	12,900	11,500	— 0.8	11.3
Contract Construction	39,700	40,900	38,600	— 2.9	2.9
Manufacturing	213,100	217,900	218,900	— 2.2	— 2.7
Transportation and Public Utilities	40,400	40,600	39,800	— 0.5	1.5
Wholesale and Retail Trade	161,400	167,500	160,500	— 3.6	0.6
Finance, Insurance and Real Estate	33,000	33,200	32,500	— 0.6	1.5
Service	121,000	121,700	119,900	— 5.5	0.9
Government	185,400	187,200	194,100	— 1.0	— 4.5
Unemployment Rate (Per Cent Labor Force)	10.6	9.0	8.6	——	——
Average Weekly Earnings in Manufacturing (Dollars)	178.75	241.34	226.39	—25.9	—21.0
Average Hourly Earnings in Manufacturing (Dollars)	6.25	6.22	5.79	0.5	7.9
Average Weekly Hours in Manufacturing	28.6	38.8	39.1	—26.3	—26.9
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,769	2,876	2,903	— 3.7	— 4.6
Gasoline Delivered to Dealers (gals.)[6]	128,141	118,652	121,679	8.0	5.3
Dairy Production					
Milk (lbs.)[7]	69,000	67,000	67,000	3.0	3.0
Egg Production (No. eggs)[7]	133,000	146,000	144,000	— 8.9	— 7.6
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[8]	5,300	11,600	27,500	—54.3	—80.7
Construction Loans	500	2,100	2,000	—76.2	—75.0
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[9]	1,808,045	1,620,575	1,886,758	11.6	— 4.2
Telephones in Service (Number)[10]	1,534,862	1,534,144	1,505,848	0.1	1.9
RETAIL SALES ($000's)[11]	1,515,739	1,362,766	1,435,647	11.2	5.6

Indicator	October 1981	September 1981	October 1980	Per Cent Change One Month Ago	Per Cent Change One Year Ago
AGRICULTURE ($000's)[12]					
Total Cash Receipts from Farm Marketings	466,666	137,216	309,955	240.1	50.6
Cash Receipts from Marketing Livestock	88,551	89,015	81,744	— 0.5	8.3
Cash Receipts from Marketing Crops	378,115	48,201	228,211	684.5	65.7

[1] Preliminary
[2] Revised
[3] Percent change calculated with revised figures; not comparable with previously published data.
[4] Mississippi Employment Security Commission
[5] State Oil and Gas Board for September
[6] Mississippi Motor Vehicle Comptroller
[7] Mississippi Crop and Livestock Reporting Service
[8] Federal Home Loan Bank of Little Rock
[9] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority
[10] South Central Bell Telephone Company
[11] Mississippi Tax Commission
[12] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month January	Month Ago	Year Ago	Current Month January	Month Ago	Year Ago	Current Month January	Month Ago	Year Ago
Aberdeen	—12.9	31.7	8,386	—0.4	2.0	44,288	4.5	— 9.5	579,800	23,000	131,050
Baldwyn	1.6	33.5	4,792	0.4	1.9	21,480	10.5	4.4	——	——	——
Batesville	——	——	9,388	0.2	4.1	57,802	11.6	— 4.5	20,000	6,667	192,585
Bay Springs		——	——	——	——	22,082	3.8	—17.3	——	——	——
Bay St. Louis	——	——	14,237	0.2	3.6	30,218	—19.6	—26.6	——	——	——
Belmont	—16.1	2.1	2,389	—0.5	2.8	9,834	2.7	2.0	——	——	——
Belzoni	——	——	5,169	—0.4	4.1	28,421	3.1	5.9	4,800	27,000	32,000
Biloxi	——	24.3	46,773	0.4	2.0	278,350	11.8	— 0.2	1,071,769	1,398,267	726,005
Brandon	——	——	11,418	0.1	—4.3	41,445	10.7	38.6	80,000	87,700	116,000
Brookhaven	——	——	16,126	—0.2	0.2	131,484	8.2	1.9	136,500	187,000	14,000
Brooksville	182.5	—32.6	1,316	[illegible]	—0.9	2,587	— 0.7	—18.8	——	——	——
Canton	——	——	11,143	—0.4	2.4	59,126	— 1.1	— 1.4	59,600	155,500	92,200
Carthage	——	——	7,542	0.0	0.4	36,351	— 1.3	—17.5	79,600	16,500	96,800
Charleston	——	——	4,268	—0.3	1.8	7,286	—71.5	—58.9	——	——	——
Clarksdale	——	——	20,723	—0.2	—1.3	121,138	—10.1	— 9.9	53,400	119,250	446,511
Cleveland	——	30.3	14,027	0.4	—0.8	99,590	— 3.6	— 0.5	——	——	——
Collins	——	——	4,788	0.2	3.0	39,897	26.7	3.7	——	——	——
Columbia	——	——	16,353	0.1	3.3	88,500	0.4	—3.6	——	——	——
Columbus	——	—11.9	34,232	0.3	0.9	274,286	20.0	4.3	196,592	475,261	205,256
Corinth	—42.4	—22.5	21,095	—0.1	0.7	113,686	0.7	—15.5	102,600	39,955	47,230
Crystal Springs	——	——	5,999	—0.2	0.8	22,122	5.7	— 0.3	12,000	28,250	54,400
Drew	—24.8	—12.6	2,947	—0.6	8.0	10,650	— 1.7	— 8.3	——	——	5,000
Edwards	—14.1	39.1	1,726	—0.5	2.1	3,700	16.9	—10.2	——	——	10,000
Ellisville	—11.8	19.8	4,112	0.6	3.0	18,130	19.5	18.1	——	——	——
Eupora	—31.1	—28.2	4,529	—0.1	2.6	18,089	14.1	— 3.5	——	——	——
Fayette	——	——	3,407	0.4	1.4	9,263	—20.7	24.4	——	——	——
Forest	——	——	5,206	0.6	2.1	53,558	12.6	— 7.5	8,000	16,500	——
Greenville	——	——	37,347	0.0	0.4	287,882	12.2	— 6.5	——	——	——
Greenwood	——	——	24,006	—0.2	—0.3	160,463	4.1	— 0.4	——	54,909	119,900
Grenada	——	——	14,510	—0.1	0.9	96,164	20.6	6.2	76,000	30,000	64,550
Gulfport	——	——	63,757	0.2	2.6	296,297	19.0	9.4	2,223,574	318,395	485,683
Hattiesburg	——	——	60,769	—1.1	0.6	412,761	20.5	— 1.5	363,560	1,011,652	1,182,546
Hernando	——	1.0	7,468	0.0	2.8	23,928	2.9	— 0.3	9,200	27,500	3,000
Hollandale	10.8	— 7.4	3,397	—0.1	1.2	13,141	—12.5	— 5.5	——	1,125	98,287
Holly Springs	——	——	7,789	0.3	3.1	37,013	—10.6	—22.3	539,465	57,500	32,000
Houston	——	——	5,737	—0.2	1.3	31,648	14.1	6.6	——	8,000	350
Indianola	——	—16.6	7,911	0.5	0.5	61,259	1.3	— 4.7	——	——	——
Iuka	——	——	5,794	0.1	1.9	24,914	—12.2	—28.7	——	——	——
Jackson	——	——	232,461	0.2	2.3	1,624,732	15.4	— 2.5	2,488,881	1,660,718	3,482,331
Kosciusko	—18.0	4.3	9,514	—0.4	0.4	53,680	— 4.6	—14.4	36,600	82,400	112,000
Laurel	——	——	36,328	0.0	3.8	434,870	9.9	17.2	775,871	393,585	286,526
Leland	——	——	5,336	—0.4	1.5	18,894	—10.3	—10.5	——	12,400	212,766
Lexington	——	——	4,938	—0.4	2.4	17,990	5.2	—19.6	——	——	——
Louisville	——	——	10,771	—0.3	1.0	46,398	—13.1	—21.1	17,400	76,746	204,300
Lucedale	——	——	8,649	—0.2	2.5	41,052	13.7	13.0	32,000	680,900	40,000
Lumberton	——	——	2,980	—0.6	2.0	9,220	— 2.4	— 7.8	——	——	——
Macon	——	—13.5	3,813	0.2	1.9	16,857	14.2	3.2	——	——	——
Magee	——	——	5,501	—0.3	2.9	47,656	14.7	5.0	——	——	——
Magnolia	——	——	4,406	—0.3	2.5	9,714	12.2	0.4	13,500	37,300	32,000
Marks	——	——	5,481	—0.4	0.0	17,501	8.5	— 1.0	——	——	——
McComb	— 8.8	79.6	20,472	0.2	2.4	145,658	6.0	0.0	112,700	87,500	385,950
Meadville	——	— 9.2	——	——	——	5,555	— 4.8	10.5	——	——	——
Mendenhall	29.6	— 4.1	6,785	0.3	3.6	22,051	29.4	— 3.3	40,050	——	——
Meridian	——	——	47,788	0.0	—0.9	426,773	20.8	— 0.4	293,128	2,636,572	488,908
Monticello	——	——	5,086	0.1	3.3	22,674	22.8	11.8	39,500	35,500	——
Morton	——	——	3,625	—0.4	2.0	19,261	3.7	— 6.2	——	——	——
Moss Point	——	——	16,724	0.2	3.1	48,930	2.0	0.5	81,300	64,680	209,660
Natchez	——	——	31,079	0.3	3.3	262,089	1.7	7.0	137,300	63,545	186,310
New Albany	—15.9	— 5.5	11,567	0.3	2.4	54,129	— 3.8	—17.3	127,500	218,400	112,000
Newton	——	——	4,208	0.0	2.8	24,810	— 3.4	1.9	21,828	47,623	603,000
Ocean Springs	——	——	16,114	0.1	1.2	73,560	— 6.7	— 4.9	——	——	339,226
Okolona	——	— 2.2	3,498	0.2	1.1	16,487	24.7	11.9	——	——	——
Oxford	——	——	21,768	1.2	0.2	89,226	— 1.8	— 3.2	22,700	59,625	13,000
Pascagoula	——	——	37,256	0.2	5.5	212,240	7.9	0.8	446,922	251,211	517,785
Pass Christian	——	——	5,836	0.6	4.3	10,538	—23.6	—35.9	391,980	30,380	177,300
Philadelphia	——	——	11,945	0.3	2.2	55,884	9.8	4.7	——	——	——

BUSINESS ACTIVITY BY CITY

	Bank Debits		Telephones in Service			City Sales Tax Collections			Building Permits		
	Per Cent Change			Per Cent Change			Per Cent Change				
	Month Ago	Year Ago	Current Month January	Month Ago	Year Ago	Current Month January	Month Ago	Year Ago	Current Month January	Month Ago	Year Ago
Picayune	——	——	16,346	0.0	4.1	92,692	9.5	4.9	154,000	——	222,000
Pontotoc	−20.9	5.0	9,561	−0.4	0.7	38,056	− 3.0	−18.1	——	——	——
Poplarville	——	——	4,304	−0.4	3.6	17,290	11.6	10.1	——	210,000	——
Port Gibson	——	——	5,780	0.6	−0.2	19,506	15.6	13.5	——	——	——
Prentiss	——	——	4,629	−0.8	3.3	25,002	25.2	16.1	2,000	50,100	——
Quitman	——	——	5,065	0.3	1.9	26,708	11.2	0.0	——	——	——
Raymond	10.9	47.4	3,338	0.5	4.5	4,593	−22.1	−24.9	——	——	——
Richton	——	——	1,973	−0.3	−1.4	10,499	16.7	− 4.4	——	——	——
Rosedale	——	——	1,585	0.0	−1.7	7,139	− 5.9	− 5.0	——	——	——
Ruleville	——	−12.8	1,949	0.2	2.5	9,321	−21.0	−21.9	——	5,000	5,000
Sardis	——	——	3,300	−0.5	−5.6	15,901	−15.8	− 3.1	——	——	——
Senatobia	——	——	6,994	0.2	3.3	44,011	12.7	−14.6	106,000	34,000	1,000
Shelby	28.6	38.6	1,633	−0.1	0.0	8,966	− 2.3	−13.9	——	——	——
Starkville	——	——	25,635	1.3	1.2	93,299	− 9.9	−18.7	147,013	78,400	299,250
Summit	——	——	1,729	−0.7	5.0	13,033	32.4	30.3	——	——	——
Taylorsville	−22.2	−12.0	1,823	0.6	2.7	11,357	0.4	− 1.7	——	——	——
Tchula	——	——	1,981	−0.8	−1.6	4,511	− 9.1	−16.3	——	——	——
Tunica	——	——	4,295	0.0	0.4	16,221	0.8	− 8.8	——	——	——
Tupelo	−16.9	18.4	38,264	−0.3	1.4	338,478	7.6	− 4.6	40,150	423,700	1,997,825
Union	——	——	2,875	−0.9	3.1	14,797	10.7	14.8	——	——	——
Utica	——	——	3,126	−0.1	2.2	8,736	− 4.5	13.6	——	——	——
Vicksburg	——	——	39,490	0.2	0.7	223,176	12.1	6.2	——	199,280	160,450
Walnut Grove	——	——	1,060	0.0	1.5	2,038	21.5	34.1	——	——	——
Water Valley	——	——	4,255	−0.1	4.6	22,869	7.5	− 2.6	——	——	——
Waynesboro	——	——	7,994	−0.1	3.4	65,537	4.3	− 9.8	50,500	949,122	66,000
West Point	−14.3	− 8.3	12,682	0.1	2.4	51,919	− 5.8	−20.3	——	741,675	32,000
Wiggins	− 9.9	− 2.2	6,361	0.0	0.3	24,326	16.7	5.9	31,000	3,500	57,260
Winona	−14.1	4.4	5,022	0.2	0.4	29,597	− 4.8	−24.3	——	——	16,000
Yazoo City	6.8	−38.1	12,690	−0.2	1.8	74,273	18.9	− 6.9	5,000	68,000	177,000

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON **[Hinds and Rankin Counties]**	January 1982	December 1981	January 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	159,200	160,700	157,200	− 0.9	1.3
Unemployed Persons	11,400	10,500	9,100	8.6	14.3
Per Cent of Labor Force	7.2	6.5	5.8	——	——
Employed Persons	147,800	150,200	148,100	− 1.6	− 0.2
Non-Ag Wage & Salaries	128,800	130,900	129,200	− 1.6	− 0.3
Manufacturing	17,800	18,300	17,700	− 2.7	0.6
TELEPHONES IN SERVICE	252,069	251,531	247,159	0.2	2.0
CITY SALES TAX COLLECTIONS	1,683,206	1,463,746	1,713,701	14.9	− 1.8

BILOXI-GULFPORT **[Hancock, Harrison and Stone Counties]**	January 1982	December 1981	January 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	67,140	66,450	64,860	1.0	3.5
Unemployed Persons	5,100	4,740	4,260	7.6	19.7
Per Cent of Labor Force	7.6	7.1	6.6	——	——
Employed Persons	62,040	61,710	60,600	0.5	2.4
Non-Ag Wage & Salaries	53,210	52,860	52,030	0.7	2.3
Manufacturing	8,540	8,570	8,270	− 0.4	3.2
TELEPHONES IN SERVICE	116,366	116,012	113,623	0.3	2.4
CITY SALES TAX COLLECTIONS	585,185	499,705	566,319	17.1	3.3

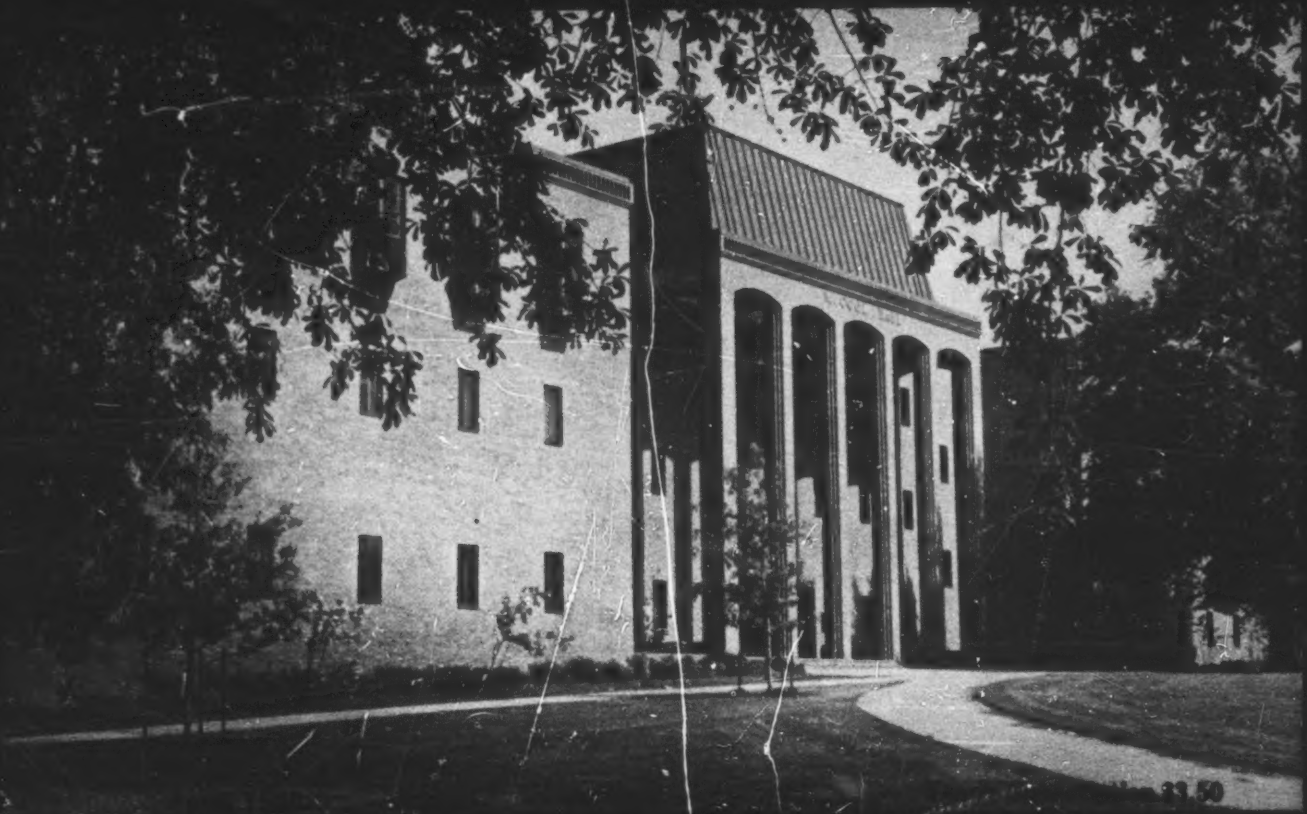
[1] Preliminary

Retail Sales Tax By County (000's)

County	1980	% of State	% of Change	1981	% of State	% of Change
Adams	13,979	2.30	16.51	15,719	2.39	12.45
Alcorn	8,764	1.44	24.07	9,349	1.42	6.68
Amite	1,277	0.21	11.33	1,532	0.23	19.97
Attala	3,528	0.58	1.91	3,803	0.58	7.79
Benton	677	0.11	16.12	670	0.10	— 1.03
Bolivar	8,203	1.35	8.06	8,824	1.34	7.57
Calhoun	2,572	0.42	10.01	2,598	0.40	1.01
Carroll	1,008	0.17	19.86	1,163	0.18	15.38
Chickasaw	2,802	0.46	0.25	2,950	0.45	5.28
Choctaw	965	0.16	13.00	965	0.15	0.0
Claiborne	5,131	0.84	124.36	4,991	0.76	— 2.73
Clarke	2,232	0.37	7.93	2,337	0.36	4.70
Clay	3,593	0.59	6.18	3,831	0.58	6.62
Coahoma	7,732	1.27	8.06	8,319	1.27	7.59
Copiah	4,036	0.66	2.20	4,153	0.63	2.90
Covington	3,367	0.55	25.12	3,507	0.53	4.16
DeSoto	7,163	1.18	8.15	8,083	1.23	12.84
Forrest	22,648	3.72	10.02	23,433	3.72	7.88
Franklin	857	0.14	6.06	1,139	0.17	32.91
George	2,559	0.42	22.85	2,704	0.41	5.67
Greene	937	0.15	16.83	919	0.14	— 1.92
Grenada	5,330	0.88	3.05	5,716	0.87	7.24
Hancock	4,617	0.76	16.27	5,910	0.90	28.01
Harrison	28,579	6.34	8.57	41,173	6.27	44.07
Hinds	90,965	14.95	5.15	93,246	14.20	2.51
Holmes	3,330	0.55	12.69	3,733	0.57	12.10
Humphreys	2,585	0.42	22.28	2,892	0.44	11.88
Issaquena	211	0.03	52.90	246	0.04	16.59
Itawamba	2,681	0.44	14.67	3,066	0.47	14.36
Jackson	24,792	4.07	16.53	26,556	4.04	7.12
Jasper	3,085	0.51	24.12	3,550	0.54	15.07
Jefferson	854	0.14	6.22	933	0.14	9.25
Jeff Davis	1,941	0.32	17.78	2,242	0.34	15.51
Jones	21,057	3.46	15.63	26,879	4.09	27.65
Kemper	1,078	0.18	22.50	1,113	0.17	3.25
Lafayette	5,381	0.88	12.57	5,786	0.88	7.53
Lamar	2,372	0.39	3.27	2,887	0.44	21.71
Lauderdale	22,265	3.66	9.55	23,152	3.53	3.98
Lawrence	1,865	0.31	13.93	2,008	0.31	7.67
Leake	2,844	0.47	10.23	3,020	0.46	0.19
Lee	19,470	3.20	6.07	21,329	3.25	9.55
Leflore	10,595	1.74	10.18	11,295	1.72	6.61
Lincoln	7,605	1.25	13.39	8,148	1.24	7.14
Lowndes	15,089	2.48	7.43	17,732	2.70	17.52
Madison	7,403	1.22	11.32	8,203	1.25	10.81
Marion	6,256	1.03	22.14	7,782	1.18	24.39
Marshall	3,285	0.54	4.29	3,669	0.56	11.69
Monroe	8,064	1.32	9.33	8,109	1.23	0.56
Montgomery	2,168	0.36	8.56	2,242	0.34	3.41
Neshoba	3,966	0.65	2.14	4,289	0.65	8.14
Newton	2,892	0.48	9.79	2,990	0.46	3.39
Noxubee	1,744	0.29	1.93	1,820	0.28	4.36
Oktibbeha	6,572	1.08	7.04	7,365	1.12	12.07
Panola	5,412	0.89	10.04	5,654	0.86	4.47
Pearl River	5,886	0.97	6.94	6,304	0.96	7.10
Perry	1,132	0.19	6.09	1,159	0.18	2.39
Pike	9,379	1.54	9.43	10,048	1.53	7.13
Pontotoc	2,724	0.45	0.81	2,689	0.41	1.28
Prentiss	3,800	0.62	4.00	3,916	0.60	3.05
Quitman	1,892	0.31	14.60	1,876	0.29	0.85
Rankin	17,080	2.81	18.69	18,374	2.80	7.58
Scott	5,133	0.84	12.54	5,178	0.79	0.88
Sharkey	1,515	0.25	12.47	1,701	0.26	12.28
Simpson	4,509	0.74	16.33	4,630	0.70	2.68
Smith	1,642	0.27	6.69	1,688	0.26	2.80
Stone	1,915	0.31	14.81	2,034	0.31	6.21
Sunflower	5,866	0.96	9.03	6,429	0.98	9.60
Tallahatchie	2,192	0.36	12.35	2,374	0.36	8.30
Tate	3,094	0.51	6.36	3,181	0.48	2.81
Tippah	2,996	0.49	6.24	3,153	0.48	5.24
Tishomingo	5,695	0.94	45.73	5,091	0.78	—10.61
Tunica	1,711	0.28	14.52	1,769	0.27	3.39
Union	3,446	0.57	7.35	3,670	0.56	6.50
Walthall	2,160	0.35	8.65	2,130	0.32	— 1.39
Warren	13,511	2.22	12.09	14,053	2.14	4.01
Washington	17,831	2.93	3.61	18,576	2.83	4.18
Wayne	4,639	0.76	19.47	5,115	0.78	10.26
Webster	1,515	0.25	0.40	1,623	0.25	7.13
Wilkinson	1,699	0.28	13.44	1,847	0.28	8.71
Winston	3,306	0.54	6.44	3,448	0.52	4.30
Yalobusha	1,927	0.32	8.14	2,167	0.33	12.45
Yazoo	6,368	1.05	15.72	6,562	1.00	3.05
State Total	608,648		10.32	656,775		—12.45

/ u 3255-2 MAY 11 1982

MISSISSIPPI BUSINESS REVIEW



$3.50

Second Class Postage Paid at
Mississippi State, Mississippi 39762

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Return Postage Guaranteed

CHEATHAM

FOX

WILSON

Leo R. Cheatham is Research Economist with the Division of Business Research at Mississippi State University.

Editor's Note:

We regret that in last month's **Review** that the author's picture had the incorrect name under it. We are publishing the correct name and picture in this issue.

TABLE OF CONTENTS

How Much Water Clean-Up Do We Want To Purchase? 3
Meet the Faculty 15
Sales Indicated by Sales Tax Collection 16
New and Expanded Industry 16
Indexes of Selected Mississippi Economic Indicators 16
State Economic Indicators 17
Business Activity By City 18
SMSA 19
Selected Personal Income Tax Information 20

VOLUME XLIII APRIL, 1982 NUMBER 10

James D. McComas, Ph.D.
President, Mississippi State University
Gaines M. Rogers, Ph.D.
Dean, College of Business and Industry
Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing
Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics
Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics
Louis M. Capella, D.B.A.
Editorial Advisor
Orris L. Odom, II, Ph.D.
Editorial Advisor
Gary A. Williams, D.B.A.
Editorial Advisor
Donna M. Reddish
Assistant Editor
Dale Adams
Secretary
Diane Dendy
Secretary
Sadia Al-Jibouri, M.B.A.
Research Assistant

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

How Much Water Clean-Up Do We Want To Purchase?

By: Dr. Leo R. Cheatham

*The research on which this study is based was funded in part by the Office of Water Research & Technology, U.S. Dept. of Interior, through the Mississippi Water Resources Research Institute.

Who Pays?

Clean air and clean water are not "free goods." They might have been in the days of Adam and Eve and even as late as the Colonial period of our nation, but the process of population growth has changed that situation. In an environment consisting of large numbers of people, polluted air and polluted water become the "free goods." These are available to everyone at no additional cost. The more dense the population, the greater the pollution potential. Contaminant removal is a costly process.

The federal government cannot simply pass legislation and give us the commodities of clean air and water. Someone has to pay the cost of producing these products. When the government spends money for an organization to combat pollution or for construction projects designed to improve waste treatment, the money does not come out of the pocket of people in Washington. It comes from yours and mine as taxpayers. Congress never has any money of its own to spend. All it can do is tell you how it is going to spend your tax dollars. Grants to states and municipalities from the Federal Government are merely a mechanism whereby the people in Washington are dictating how funds will be used which were taken from taxpayers in these localities.

Industry is the most frequently sought after scape goat when the topic of pollution control arises. It is politically popular to blame all pollution on this sector and to try to force it to pay the bill for clean air and water. However, such a policy generally has one of two consequences which also affect the same taxpaying consumers as the government expenditure approach. The first choice course of action for a firm experiencing pollution abatement costs resulting from government regulations is to pass the additional costs on to the consumer in the form of higher prices for products produced. Prices on today's new automobiles have received a significant boost from this source. Costs of complying with federal regulations in all stages of construction, especially in foundry and other metal processing operations, are all reflected in the unrealistic sticker prices on new car windows. Add to this the direct cost of the mandated air pollution control equipment which must be on every vehicle produced, and you have a dollar portion of the price tag which far exceeds the amount of factory rebates which have recently become popular. The other consequence of abatement costs when industry cannot pass them on as higher prices is a reduction in operating profits. At the extreme, firms may cease operations which obviously destroys jobs. Any reduction in profitability always places a damper on planned investment which is a major factor affecting levels of employment.

Non-Economic Decision Consequences

What happens when a subject like pollution abatement is approached by Congress without using cost-benefit data to provide the basis for a rational decision-making process? Sadly enough there is a Federal budget deficit which provides a haunting testimonial of what can happen in two decades of legislation which has followed this philosophy. Our current budget deficit of over a trillion dollars cannot be attributed entirely to pollution abatement regulations, but the history of expenditures in this area provides a typical example of the type of legislative ingredients which in combination have contributed to produce this monster. To some extent, the size of the budget and amount of deficit spending is a function of the number of times Congress has convened and the number of regulatory acts it has passed. Every new legislation enacted of this type commits the government to additional expenditures.

The wave of environmental legislation has been especially costly because the issue has been treated as one of emotional and moral values rather than one of economic choice. Everyone wants clean air breathe and water to drink. For Congressmen to oppose legislation designed to preserve or improve the environment has been viewed as in the same view as opposition to the American flag, freedom of speech, or Mom's apple pie. Environmentalists were able to

TABLE 1

FEDERAL BUDGET APPROPRIATIONS FOR THE ENVIRONMENTAL PROTECTION AGENCY
(Amounts in Millions of Dollars)

Fiscal Year	Agency and Regional Mgt.	Research and Development	Abatement and Control	Enforcement	Construction Grants	Other	Approximate Total
1970	$ 204.0[a]	$ -0-	$ -0-	$ -0-	$ 800.0	$ -0-	$ 1,004.0
1971	285.3[a]	-0-	-0-	-0-	1,000.0	3.5	1,285.3
1972	440.5[a]	-0-	-0-	-0-	2,000.0	4.5	2,445.0
1973	45.9	177.2	266.1	34.0	6,900.0	4.0	7,423.2
1974	55.7	159.4	356.0	45.8	5,333.8	2.0	5,950.7
1975	60.4	300.5	436.8	51.1	7,666.2	1.5	8,516.5
1976	71.6	265.4	375.3	52.3	-0-	7.0	771.6
1977	72.3	260.6	386.5	57.2	1,980.0	5.0	2,766.1
1978	82.7	317.2	520.9	73.7	4,500.0	4.0	5,498.5
1979	90.0[b]	332.8	680.9	95.2	4,200.0	3.7	5,402.6
1980	524.7[b]	233.5	506.4	-0-	3,400.0	4.7	4,669.3
1981	561.7[b]	250.5	534.8	-0-	1,604.8	15.6[c]	2.967.4
1982(est.)	555.1[b]	154.3	373.0	-0-	-0-	30.2[c]	1,112.6
1983(est.)	538.1[b]	108.7	311.6	-0-	2,400.0	47.0[c]	3,405.4

[a] These figures are for "Operations, Research, and Facilities" which is a broader category than "Agency and Regional Management. They, in general, encompass the other categories for which no amounts are shown in these years.

[b] Category was changed to "Salaries and Expenses" in 1979.

[c] Increases beginning in 1981 are due to General Fund appropriation contributions to the Hazardous Substance Response Trust Fund.

Source: United States Government, The Budget of the United States, Superintendent of Documents.

garner tremendous lobbying strength because no one wished to consider any opposition whose case was based entirely on cost evidence.

Data in Table 1 and Table 2 reveal quite vividly that pollution abatement is an economic choice for which costs are very real. Table 1 data shows the amount of taxpayer funds which have been used to operate an agency whose entire function is based on promulgation, implementation, and enforcement of pollution control regulations authorized by various Federal regulatory acts. Table 2 data show estimates of some of the costs to industry of complying with regulations; costs which in turn affect the consumer either as higher prices for products or reduced job availability. These two tables represent only a portion of regulation costs. Obvious omissions include impacts on agriculture, local water and sewer systems, electric power plants, etc.

Regulatory legislation has a somewhat of an "enact now, pay later" effect which disguises the cost to the public. Often Congress has no concept of what actual costs will be to implement and maintain a new program. The wave of environmental legislation was approached by Congress in a manner similar to a kid turned loose in a candy store who grabs everything in sight with no concern for what it will cost when it comes time to pay the toll at the cashier. Time has arrived for the paying of the toll on pollution regulation. Many taxpayers who sat quietly by when the acts were passed are wondering if they really want to buy that much regulation. There has always been a cost to make Mom's apple pie. Just as surely there is a cost for clean air and water. The same people who pay for the pie are paying for pollution control.

The one Act which has probably had the greatest impact on instilling the public with an awareness that pollution control legislation produces costs which affect the consumer has been P.L. 92-500. Virtually all of the increase in "construction grants" which is the largest expenditure item shown in Table 1 is a direct result as well as all the increases in water pollution abatement expenditures since 1972 shown in Table 2. Entitled the "Federal Water Pollution Control Amendments of 1972" the Act was passed at a time when taxpayers had not become cost conscious. Costs really would not materialize until sometime later.

TABLE 2

INDUSTRIAL POLLUTION ABATEMENT CAPITAL EXPENDITURES AND OPERATING COSTS IN THE UNITED STATES, 1973-1979

(Amounts in Millions of Dollars)

Year	Air	Water	Solid Waste	Total
		Capital Expenditures		
1973	$ 1,417.5	$ 827.8	$ 108.2	$ 2,353.7
1974	1,947.5	1,008.8	144.7	3,101.1
1975	2,235.7	1,280.1	121.8	3,637.6
1976	1,797.8	1,599.1	134.8	3,531.7
1977	1,667.9	1,695.1	159.9	3,522.6
1978	1,871.5	1,262.9	181.2	3,315.9
1979	2,088.7	1,262.2	251.0	3,602.2
		Operating Costs		
1973	$ 960.5	$ 993.3	$ 491.7	$ 2,445.2
1974	1,210.7	1,261.4	630.7	3,102.8
1975	1,508.1	1,496.6	669.7	3,673.1
1976	1,888.2	1,824.0	827.1	4,539.2
1977	2,259.3	2,221.6	989.7	5,470.2
1978	2,546.6	2,550.4	1,230.3	6,327.5
1979	3,085.5	3,040.1	1,335.8	7,461.5

Source: United States Department of Commerce, Bureau of Census, Pollution Abatement Costs and Expendutures, 1978.

A recently completed research project for the Mississippi Water Resource Research Institute provides some insight into the magnitude and effects the costs of complying with U.S. Environmental Protection Agency (USEPA) standards implemented under authority of this Act are having in Mississippi.* This study was not designed to discredit the law nor to praise it. Purpose was to determine the economic impacts of costs which do exist and to provide data of the type which should be of interest to legislative bodies when considering programs of this type.

What's New About P.L. 92-500

Entitled the Federal Water Pollution Control Act Amendements of 1972, this Act is only one of the more recent in a series. The Water Quality Act of 1965, the Clean Water Restoration Act of 1966, the Water Quality Improvement Act of 1970, and P. L. 92-500 are all amendments to the Federal Water Pollution Control Act of 1956. However, the 1972 Amendments replaced entirely the language of all previous Acts in the series.

The means of pollution prevention and elimination is now the application of effluent discharge standards which represents a new approach. Water quality becomes the measure of program effectiveness, not just the means of elimination and enforcement. The administrator of USEPA is empowered to set limits based on standards which can be achieved if the best control technology is employed. He no longer has to establish a direct cause and effect link between each point source and resultant stream contamination before taking action.

In some respects goals and objectives of the Act are very specific and comprehensive even though they may be of questionable feasibility due to ambitious nature of tasks necessary for achievement. As stated in 33 U.S.C. 1251, the purpose of P.L. 922-500 is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." Two phases are to be culminated with achievement of goals on specified deadlines:

(1) it is the national goal that the discharge of pollutants into navigable water be eliminated by 1985;

and (2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and provides for recreation in and on the water to be achieved by July 1, 1983.

The term "navigable waters" has an extremely broad connotation when used in this manner and as applied by USEPA. Any body of water which can eventually drain into a navigable interstate stream, either as part of the stream's tributary system or as a result of rainwater drainage or floodwater overflow, is interpreted as being part of the navigable stream network. Consequently, virtually any surface wastewater discharge is within the regulatory domain of USEPA under the implied authority granted by this provision.

Methods of Goal Achievement

The new Act requires national standards for all "navigable" bodies of water. However, the law pays lip service to the concept of allowing states to set their own standards. If they do not establish and enforce effluent discharge limitations equivalent to, or more stringent than, the Federal guidelines, USEPA has the power to step in and apply the national standards. This technique in effect forces the costs of implementation and enforcement on the state governments. Consequently the EPA expenditures shown in Table 1 reflect only a very small portion of costs due to these aspects of the program.

Mississippi has State regulations which meet and surpass the national minimum guidelines and, therefore, has full implementation and enforcement authority. The state also must face the major portion of the burden of financing these activities. Responsibilities are handled in a very efficient manner by the Bureau of Pollution Control in the Department of Natural Resources.

The National Pollutant Discharge Elimination System (NPDES) was established as the mechanism for insuring that stream quality goals could be met. By using a permit system which limits the discharges at each point source, a means of controlling the total pollution levels on each stream is provided. This permit specifies names of allowable pollutants as well as average and maximum daily limits of discharges. Quantities and qualities vary depending on factors such as number of discharge sources and assimilative dispersant capabilities of recipient bodies of water.

NPDES also serves as an evaluation system for determining the adequacy of current permissible discharge standards in achieving the goal of P.L. 92-500. Publicly owned wastewater treatment plants are required to provide a minimum of "secondary treatment" by July 1, 1977, and to apply the "best practicable treatment" by July 1, 1983. All other categories and classes of point sources are required to apply the "best available pollutant control technology" as determined by USEPA by July, 1983. If effluent discharge standards implemented under these conditions are not adequate to achieve the scheduled goals specified by Congress in the Act, USEPA is required to establish stricter standards.

Discharge standards have their primary impact on point sources. Sewage disposal systems and industrial firms comprise almost all of this category in Mississippi as well as in other states. These are the units in the economy which are having to install more sophisticated wastewater handling equipment, and consequently, represent the sector which bears the direct impact of compliance costs, both for new equipment and for accompanying increases in operating/maintenance costs.

Unequal Industrial Burden

Incidence of the burden of water pollution abatement among industrial firms is highly selective. Research findings of the Division of Business Research study and numerous studies conducted by other groups indicate cost of complying with regulations is very closely correlated with the volume of water used by an industry. Approximately 85% of the 15.0 billion gallons of water consumed by manufacturing in the United States in 1973 was accounted for by four industry groups: Primary Metal Industries (SIC 33), Chemicals and Allied Products (SIC 28), Paper and Allied Products (SIC 26), and Petroleum and Coal Products (SIC 29). In 1977 this same group of firms accounted for approximately 77% of total water

TABLE 3

WATER POLLUTION ABATEMENT CAPITAL EXPENDITURES AS PERCENTAGES OF TOTAL U. S. INDUSTRY CAPITAL EXPENDITURES BY INDUSTRY GROUPS, 1973-1981

	1973	1974	1975	1976	1977	1978	1979	1980	1981
All Industries	1.2%	1.2%	1.6%	1.7%	1.5%	1.3%	1.2%	1.1%	1.1%
Manufacturing	2.5	2.5	3.5	3.7	3.2	2.3	1.9	1.8	1.9
Durable Goods	1.6	1.5	2.0	2.1	2.0	1.4	1.3	1.2	1.2
Primary Metals	3.0	3.3	3.8	4.7	5.3	3.7	3.8	3.4	3.4
Fabricated Metals	1.7	1.0	3.0	1.3	2.0	1.0	1.3	1.0	1.5
Electrical Machinery	1.7	1.6	1.0	1.1	1.1	.9	.8	.6	.7
Machinery, Except Electrical	1.0	.8	.8	.7	.9	.8	.6	.6	.6
Transportation	1.4	.9	1.2	1.1	1.1	.9	1.0	.9	1.0
Stone, Clay and Glass	1.3	1.2	1.8	1.6	1.8	1.9	.8	.8	1.0
Other Durables	1.5	2.1	2.8	3.9	2.8	1.6	1.2	1.2	1.0
Nondurable Goods	3.7	3.5	5.0	5.1	4.3	3.2	2.5	2.5	2.6
Food	3.6	3.7	4.2	3.5	3.1	3.0	2.4	2.4	2.0
Textiles	2.9	1.8	2.2	2.9	2.4	1.4	1.3	1.2	1.7
Paper	6.0	4.5	7.0	9.6	6.9	3.5	3.2	2.3	2.5
Chemicals	5.2	4.7	6.2	6.8	6.7	4.4	2.6	2.5	2.6
Petroleum	3.8	4.0	5.2	4.9	4.1	3.9	3.3	3.3	3.6
Rubber	1.3	1.2	1.7	1.5	1.2	.5	.5	.6	.9
Other Nondurables	.4	.4	.9	.4	.4	.6	.2	.3	.2
Nonmanufacturing	.6	.6	.6	.9	.6	.8	.8	.7	.5
Mining	2.4	1.3	.1	1.2	1.1	2.4	2.4	1.6	1.3
Transportation	.4	.6	.6	.7	.5	.6	.4	.5	.5
Public Utilities	2.3	2.2	2.0	2.4	2.2	2.9	2.9	2.5	1.8
Trade and Services	.2	.1	.1	.1	.0	.1	.0	.0	.0
Communication, and Other	.0	.0	.1	.0	.0	.0	.1	.0	.0

SOURCE: U. S. Department of Commerce, Survey of Current Business, LXI, No. 6.

pollution abatement capital expenditures of manufacturers.

Even greater concentration of water intake and discharge is apparent in the Mississippi data. The two groups of Paper and Allied Products (SIC 26) and Chemicals and Allied Products (SIC 28) were responsible for 75.5% of all manufacturing water intake in the state and 78.3% of all manufacturing wastewater discharges. Addition of the categories of Stone, Clay, and Glass Products (SIC 32), Food and Kindred Products (SIC 20), and Lumber and Wood Products (SIC 24) to these two categories leaves only 9% of total manufacturing wastewater unaccounted for.

From the viewpoint of a firm faced with required expenditures for water pollution abatement equipment, the degree of impact on profitability of operations is the portion of the capital budget which must go to these nonproductive assets. A firm that does not produce profits cannot survive. Capital budgeting is a process of allocating the firms limited financial resources in such a manner that cash flows from the assets in which the funds are invested result in rates of return higher than the cost of the funds. Funds invested in pollution control equipment have a cost but do not generate cash flows.

Data in Table 3 show the portion of capital budgets which have been spent on water pollution abatement equipment for the 1973-1981 period. It is quite obvious that the large volume water user groups mentioned above are more likely to experience economic impacts from expenditures for abatement equipment because they are having to spend a relatively larger percentage of investment funds for this purpose. The two categories of paper and chemicals which accounted for the major portion of wastewater discharges in Mississippi have the highest ratios of any two groups shown over the 1973-1981 period.

While the two digit SIC provides some means of delineating the incidence of the cost of pollution abate-

TABLE 4

ESTIMATED PORTIONS OF POTENTIAL WATER POLLUTION INDUSTRIES IN STATE REPRESENTED BY FIRMS ACTUALLY INCURRING SIGNIFICANT ABATEMENT COSTS IN 1978

SIC Code	Industry	Number Firms[a]		Employment[a]		Payroll[b] ($Thousands)		WPAEF[c] as a % of Total Firms	WPAEF[c] as a % of Employment and Payroll	Approximate[d] Value Added By Mfg. ($ Million)	
		Total	WPAEF[c]	Total	WPAEF[c]	Total	WPAEF[c]			Total	WPAEF[c]
2011	Meatpacking plants	37	4	3,060	2,151	$ 24,416	$17,163	10.8%	70.3%	$ 50.5	$ 35.5
2016	Poultry dressing plants	21	11	4,967	2,108	39,632	16,820	52.4	42.4	93.0	39.4
2026	Fluid mills	17	1	1,248	75	12,308	740	5.9	6.0	35.2	2.1
2035	Pickled fruits, veg. etc.	6	2	542	355	3,811	2,496	33.3	65.5	24.1	15.8
2047	Pet food	12	2	468	228	4,567	2,225	16.7	48.7	36.9	18.0
2048	Prepared feeds (NEC)	88	1	700	44	6,831	429	1.1	6.3	25.0	1.6
2062	Cane sugar refining	1	1	80	80	695	695	100.0	100.0	4.1	4.1
2074	Cottonseed oil mills	16	1	1,073	194	10,848	1,961	6.3	18.1	15.9	2.9
2075	Soybean oil mills	11	1	790	192	7,986	1,941	9.1	24.3	30.5	7.4
2077	Animal & marine fats, oils	5	5	339	339	3,427	3,427	100.0	100.0	12.4	12.4
2086	Bottled & can. soft drinks	38	1	2,300	77	21,793	730	2.6	3.3	82.1	2.7
2099	Food preparations (NEC)	11	1	796	175	5,510	1,658	9.1	30.1	21.2	6.4
	Group 20 TOTALS	263	31	15,763	6,018	$135,759	$50,285	11.8	37.0	$430.9	$148.3
2211	Broad woven fab. mills, cotton	1	1	13	13	$ 102	$ 102	100.0%	100.0%	$ .2	$ .2
2221	Broad woven fab. mills, man-made	4	1	419	130	3,305	1,025	25.0	31.0	7.7	2.4
2254	Knit underwear mills	3	1	1,892	270	14,922	2,129	33.3	14.3	19.5	2.8
	Group 22 TOTALS	8	3	2,324	413	$18,329	$3,256	37.5	17.8	$27.4	$5.4
2491	Wood preserving	27	4	1,431	170	$14,772	$1,755	14.8%	11.9%	$37.5	$4.5
2514	Metal household furniture	8	2	1,887	1,100	$15,373	$8,962	25.0%	58.3%	$19.7	$11.5
2611	Pulp mills	1	1	1,170	1,170	$16,883	$16,883	100.0%	100.0%	$ 64.0	$ 64.0
2621	Paper mills, except build. paper	4	3	1,947	1,915	28,095	27,633	75.0	98.4	81.9	80.6
2631	Paperboard mills	2	2	900	900	12,987	12,987	100.0	100.0	39.8	39.8
	Group 26 TOTAL	7	6	4,017	3,985	$57,965	$57,503	85.7	99.2	$185.7	$184.4
2812	Alkalies & chlorine	1	1	300	300	$ 4,461	$ 4,461	100.0%	100.0%	$ 20.5	$ 20.5
2813	Industrial gases	2	1	757	750	11,255	11,152	50.0	99.1	75.8	75.1
2816	Inorganic pigments	1	1	305	305	41,871	41,871	100.0	100.0	14.6	14.6
2819	Ind. inorganic chemicals (NEC)	11	8	1,852	1,842	27,537	27,388	72.7	99.5	100.4	99.9
2821	Plastics mat., syn. resins, etc.	8	7	1,529	1,508	20,593	20,310	87.5	98.6	107.0	105.5
2822	Synthetic rubber	2	2	1,168	1,168	15,731	15,731	100.0	100.0	65.9	65.9
2834	Pharmaceutical preparation	6	2	1,220	1,167	15,366	14,698	33.3	95.7	80.3	76.8
2861	Gum & wood chemicals	3	3	1,200	1,200	15,114	15,114	100.0	100.0	48.5	48.5
2865	Cyclic crudes, inter., dyes, etc.	4	2	155	132	1,952	1,663	50.0	85.2	9.5	8.1
2869	Ind. organic chemicals (NEC)	6	4	620	605	7,809	7,620	66.7	97.6	57.7	56.3
2873	Nitrogenous fertilizers	5	4	1,625	1,618	20,466	20,379	80.0	99.6	161.6	160.9
	Group 28 TOTALS	48	35	10,731	10,595	$182,155	$180,387	71.4	98.7	$741.8	$732.1
2911	Petroleum refining	5	5	983	983	$18,147	$18,147	100.0%	100.0%	$136.2	$136.2
2992	Lubricating oils & greases	3	2	131	105	2,136	1,712	66.7	81.2	6.5	5.3
	Group 29 TOTALS	8	7	1,114	1,088	$20,283	$19,859	87.5	97.7	$142.7	$141.3
3011	Tires & inner tubes	4	2	2,242	1,290	$36,159	$20,805	50.0%	57.5%	$89.1	$51.2
3031	Reclaimed rubber	2	2	339	339	12,772	4,330	100.0	100.0	2.4	2.4
	Group 30 TOTALS	7	4	2,581	1,629	$48,931	$25,135	57.1	63.1	$91.5	$53.6
3315	Ferrous wire drawing, etc.	2	1	219	95	$2,433	$1,055	50.0%	43.4%	$ 6.4	$ 2.8
3341	Sec. smelting, refin., nonfer.	3	3	217	217	2,300	2,300	100.0	100.0	8.9	8.9
3356	Non-fer rolling & drawing	2	2	156	156	1,659	1,659	100.0	100.0	5.1	5.1
	Group 33 TOTALS	7	6	592	468	$6,392	$5,014	85.7	79.1	$20.4	$16.8
3471	Electroplating, plating, etc.	17	3	1,534	450	$13,992	$4,104	17.6%	29.3%	$29.6	$ 8.7
3479	Coating, engraving, etc. (NEC)	5	3	412	245	3,758	2,235	60.0	59.5	10.0	6.0
	Group 34 TOTALS	22	6	1,946	695	$17,750	$6,339	27.3	35.7	$39.6	$14.7
	TOTAL OF LISTED GROUPS	406	104	42,386	26,161	$517,709	$358,494	25.6%	61.7%	$1,737.2	$1,512.6

SOURCES: Mississippi Manufacturers Directory (Jackson: Mississippi Research and Development Center), Mississippi Covered Employment & Wages (Jackson: Mississippi Employment Security Commission), 1977 Census of Manufacturers (Washington: Bureau of Census), and research surveys.

[a] "Number firms" and "Employment" are slightly overstated due to establishments listed in more than one classification being counted in each category.

[b] "Payroll" estimated using average annual wages for covered employees only in classifications listed.

[c] "WPAEF" - Water Pollution Abatement Expenditure Firms includes those known to be involved in sizeable wastewater clean-up activities.

[d] 1977 Census of Manufacturers data.

ment among industrial groups, a more precise delineation into four-digit categories reveals on even greater concentration of costs among a fewer number of firms. As part of the recently completed Division research project, a survey was conducted to identify individual firms in which water pollution abatement costs are large enough to represent a significant portion of capital expenditures and operating maintenance costs. If abatement expenditures are having indirect economic effects on employment and income they are likely to materialize in these firms. Using the **Mississippi Manufacturing Directory**, a screening process produced a list of specific firms in 85 different four-digit SIC classifications which were surveyed. Actually only about 40 of these groups eventually produced firms which fit the criteria established to be identified as a "Water Pollution Abatement Expenditure Firm" (WPAEF).

Table 4 data provides a summary of the firms identified as meeting WPAEF criteria. Remember that number of firms shown does not include every firm which is encountering expenditures but includes only those in which they represent a sizeable portion of total capital expenditures and operating costs. Among the classifications shown it is apparent that almost all firms in certain classifications are in the WPAEF group while in other classifications only a small portion of the firms are in this category. Only 25.6% of firms in the state which are in the 40 classifications lsited in the table are in the WPAEF group. However, these firms represent 61.7% of the employment and payroll and account for 75.6% of the "value added" by firms in these 40 classifications.

WPAEFs represent a very important portion of the state's manufacturing economy. Among all firms listed between SIC 2000 and 3999, these firms represent only 2.8% of the total number. However, they provide 10.4% of manufacturing employment, 15.2% of manufacturing payroll, and 20.4% of the value added by manufacturing.

Comparison of water pollution abatement costs over the 1973-1978 period reveals trends in expenditures. Totals for the two-digit SIC categories in which the WPAEF are located are shown in Table 5.

Capital expenditure data in this table reveal some of the obvious effects of P.L. 92-500. Among the firms which have already incurred large expenditures, 53% anticipate additional cash outlays will be required in the future ranging in size from $6,000 to over $6 million. Survey findings, however, did indicate some tapering off of expenditures in 1978 by the firms with the largest outlays suggesting that the backlog of equipment purchases required to comply is beginning to be met. This trend observation is supported by the national data in Table 3 which shows capital percentage ratios beginning to decline about the same time.

While the size of annual capital expenditures can be expected to eventually subside as firms complete purchases of compliance equipment, compliance operating/maintenance costs will continue to increase. These costs are a significant factor only if a firm has its own treatment facilities. For most manufacturing firms in the state this is not the case. Among the sample group of surveyed firms, all of which were large volume water users and/or candidates for the WPAEF classification, approximately 90% were connected to public disposal systems and about 65% used these exclusively. Only about 20% of the survey group were performing any type of on-premises treatment or pre-treatment. Under present regulations, service connection to a public system is viewed as a significant economic advantage. Compliance liability is transferred to the public system. These systems serve as buffers between USEPA and firms. Regulatory action tends to be more restrained than in direct dealings between USEPA and firms. Regulatory action tends to be more restrained than in direct dealings between USEPA and industry.

Comparison of total public sewage user fees paid by industry groups listed in Table 5 with operating costs of firms with private treatment facilities listed show that size of both types of expenses have increased dramatically since 1972. However, the public user fees are insignificant compared to the operating costs. Size of these operating costs become even more significant in view of the fact that they are from only a small portion of the firms in the previously identified categories while the figures for user fees represent all firms in the listed two digit groups. Comparison of operating costs with capital expenditures suggests the former will be a more significant cause of profitability problems in the future than capital expenditures.

Surveyed managers representing the ten two-digit groups listed in the tables supplied some evidence indicating that water pollution was affecting profitability among firms which had incurred treatment costs and/or which were likely to do so in the future. Approximately 21% reported a reduced rate of return on total assets as a result of compliance expenditures. Almost all of the significant impacts were in SIC groups 20, 24, 26, and 29. However, employment, wage, and value added data for these

TABLE 5

ESTIMATED WATER POLLUTION ABATEMENT CAPITAL EXPENDITURES AND OPERATING COSTS FOR SELECTED TWO-DIGIT SIC GROUPS IN MISSISSIPPI FOR THE YEARS 1973-1978

SIC Code	Industry Group	1973-1974 Combined		1975-1976 Combined		1977-1978 Combined	
		$thousands	% of Total	$thousands	% of Total	$thousands	$ of Total
			(Capital Expenditures)				
20-39	Manufacturing Total	$22,679	100.0%	$36,817	100.0%	$39,140	100.0%
20	Food & kindred prod.	5,424	23.9	6,142	16.7	4,305	11.0
22	Textile mill prod.	305	1.3	532	1.4	1,246	3.2
24	Lumber & wood prod.	1,385	6.1	671	1.8	3,750	9.6
25	Furniture & fixtures	163	0.7	113	0.3	97	0.2
26	Paper & allied prod.	3,540	15.6	7,005	19.0	6,342	16.2
28	Chemicals & allied prod.	4,936	21.8	11,476	31.2	13,873	35.4
29	Petroleum & cool prod.	2,730	12.0	4,548	12.4	3,418	8.7
30	Rubber, misc. plas. prod.	243	1.1	184	0.5	188	0.5
33	Primary metals ind.	614	2.7	1,045	2.8	1,266	3.2
34	Fab. metals prod.	2,036	9.0	1,053	2.9	1,186	3.0
			(Public Sewage Usage Fees)				
20-39	Manufacturing Total	$ 1,439	100.0%	$ 1,868	100.0%	$ 3,414	100.0%
20	Food & kindred prod.	470	32.7	622	33.3	1,101	32.2
22	Textile mill prod.	56	3.9	71	3.8	251	7.4
24	Lumber & wood prod.	89	6.2	43	2.3	48	1.4
25	Furniture & fixtures	39	2.7	45	2.4	65	1.9
26	Paper & allied prod.	116	8.1	182	9.7	306	9.0
28	Chemicals & allied prod.	50	3.5	62	3.3	259	7.6
29	Petroleum & cool prod.	55	3.8	20	1.1	38	1.1
30	Rubber, misc. plas. prod.	25	1.7	32	1.7	44	1.3
33	Primary metals ind.	22	1.5	22	1.2	40	1.2
34	Fab. metals prod.	52	3.6	68	3.6	119	3.5
			(Private Treatment/Disposal Operating Costs)				
20-39	Manufacturing Total	$19,596	100.0%	$34,575	100.0%	$54,146	100.0%
20	Food & kindred prod.	1,770	9.0	2,931	8.5	3,050	5.6
22	Textile mill prod.	231	1.2	283	.8	2,035	3.8
24	Lumber & wood prod.	3,420	17.5	5,367	15.5	8,282	15.3
25	Furniture & fixtures	91	.5	98	.3	125	.3
26	Paper & allied prod.	2,712	13.8	4,322	12.5	7,035	13.0
28	Chemicals & allied prod.	3,857	19.7	11,918	34.5	19,588	36.2
29	Petroleum & coal prod.	3,636	18.6	5,192	15.0	6,739	12.5
30	Rubber, misc. plas. prod.	182	.9	316	.9	284	.5
33	Primary metals ind.	1,252	6.4	1,002	2.9	1,514	2,8
34	Fab. metals prod.	384	2.0	476	1.4	704	1.3

Source: Survey of Mississippi Manufacturers.

groups for the 1973-1980 period do not reveal any significant negative effects on totals. On the other hand, since 1972 prices of paper products and all types of chemicals have increased at record paces indicating that these types of industries have been able to pass compliance costs on to consumers along with other expense item increases.

Sewage Disposal Consumer Impacts

The largest and most direct impacts of costs of complying with P.L. 92-500 are impacting Mississippi taxpaying consumers through public sewage disposal system expenditures. As taxpayers, we are affected by the amount of Federal grants issued in connection with Section 201 of the 1972 Act. As consumers we are faced with rising utility bills as local governments attempt to recover costs of expenditures for required facilities improvements.

Section 201 of P.L. 92-500 provides for a system of Federal grants to qualified local governments for construction of certain types of treatment facility improvements. Grants, in general, can be equal to 75% of eligible costs with another 10% for projects meeting the requirements for "innovative and alternate" treatment as defined in the regulations. The number and size of these grants provide a good barometer of activity which is taking place in the state to satisfy requirements of the new standards.

Data in Table 6 show the number and amounts of 201 grants in Mississippi as of June 1981 by counties. At that time there were 328 different grants representing projects in 289 communities and a total of over $192 million. These funds represent 50-85% of total construction costs in the communities with a median share of 70% of the total supplied by this source in the average community.

Grants are issued in increments for a construction project as successive steps are completed. Step 1 consists of the preparation of the plan which will bring existing facilities into compliance with NPDES standards with capabilities to handle projected population increases. Step 2 consists of preparation of construction drawings and specifications. Actual construction of facilities does not begin until Step 3. In some smaller communities Steps 2 and 3 are combined and receive the Step 4 designation.

Since construction does not begin until Step 3, it is obvious that Steps 1 and 2 will represent only a small portion of the total grant amount necessary to complete a project. Number of grants shown in Table 7 which were only in Steps 1 and/or 2 in August 1980 suggests that the present $192 million in grants may only be the tip of the iceburg. Expenditures per project shown in Table 8 show that Step 3 has been costing over 20 times that of Step 1. This ratio provides a clue of the amount of tax dollars that will be necessary to provide grants to complete projects already started.

Estimated total costs shown in Table 8 are based on the median 70% of total construction cost accounted for by the grants. The remaining 30% is the local share which, in general, must be financed by loans and/or bond issues. The State makes available interest free loans (financed by state tax dollars) equal to 12½% of construction costs under certain conditions leaving approximately 17.5% which must actually be raised. A few small communities have received Farmers Home Administration or Housing and Urban Development loans with rates in the 8-13% range.

Revenue bonds are the logical choice for the remaining portion of the local share with principal and interest repayment derived from increases in user charges. Over 60% of surveyed systems indicated bonds had already been issued or were planned. However, most of these indicated great difficulty in selling bonds under present market conditions. About 20% of the surveyed communities had made no plans for financing the local share or were planning to rely on inadequate sources.

While the cost of the bond issue will be passed on to users, the greatest increase in rates is likely to result from another source. Annually recurring operating costs must be financed entirely by user fees and/or taxation. Labor, chemical/supplies, and utilities were the major expense items, which have increased. The most frequent and largest expense increases were for labor. Every single system reported some increase in this item. Increases ranged from 5% to 150% with a mean of 69% and a median of 43%. Many systems have hired new personnel whose primary job consists of compliance related activities. More personnel hirings have taken place among larger systems of the surveyed group. Expenditures for chemicals and supplies have increased in 71% of the systems, while utilities expense have increased in 94%.

Managers of systems with present or planned construction projects to meet discharge limits were questioned about the impact of local expenditures for new construction and operating cost impacts on user bills. Over 75% of those surveyed indicated rate increases would result from operating costs increases.

Another two-thirds of the remaining group were able to avoid rate increases only by raising taxes. The other one-third was composed almost exclusively of systems which had projects only in Step 1 and had not yet experienced the effects of construction costs and the effect of new treatment facilities on operating costs. Almost 100% of communities with Step 3 projects had planned or realized user rate increases and/or tax increases.

Because of vast differences in the size of average household sewage bills before Public Law 92-500 and because of large differences in per capita costs of complying in various systems, rate increases which have occurred varied greatly. Realized rate increases have ranged from 9% to 800%. Approximately 21% of the surveyed group reported no increase, but over 41% reported increases of 100% or larger. In approximately 70% of the systems reporting increases, average household bills had increased by a range of $2 to $7 representing a range of increases of 28% to 400%, depending on size of previous bills. When asked to estimate the net effect of complying with existing pollutant discharge regulations after all required construction is completed, system managers estimated increases ranging from 8% to 800% with a median 88% increase and a mean of 142% increase. About 65% of the managers were expecting permanent increases in rates in the 50% to 450% range.

A Consumer Choice

P.L. 92-500 is but one of many Federal regulatory Acts which annually require billions of dollars from taxpayers while resulting in higher prices for products they buy in the store. Compliance costs are a fact of life and are a factor to be considered in this economic choice, even if Congress does not treat the problem as such. When we purchase the scarce products of pollution abatement we sacrifice income which could have been spent for televisions, groceries, housing, education, etc.

If the Mississippi case is typical, the most obvious means by which impacts of P.L. 92-500 costs are passed on to consumers are in the form of higher prices for manufactured products and higher public sewage system user fees. Only a small portion of the total number of manufacturing firms in the state are encountering abatement expenditures which are large enough to have a noticeable impact on profit. However, this small group accounts for a very sizeable portion of employment and incomes. The fact that a large percentage of WPAEFs are using public disposal systems rather than providing private treatment significantly reduces the impact of regulations on manufacturing. The greatest direct impact on the consumer surfaces in correction with operation of public sewage disposal system. One bonus educational effect of the increases in user charges which have resulted is that the general public is becoming more aware of compliance costs and realizing that we have to pay for what we get. Consumers may wish to have an even higher quality of water in lakes and rivers and favor spending more dollars to get it. On the other hand, they may prefer a slightly lower quality in these goods which will permit them to use savings to buy a better cut of meat at the grocery store.

Taxpaying consumers must realize that they foot the bill for pollution control even when the tariff is not as obvious as a user rate increase. The government cannot "give" us clean air and water through a program of grants and loans for abatement nor can it pass the burden off on industry without affecting the consumer. P.L. 92-500 and all of the other regulatory legislation were enacted to produce benefits which the public deemed desirable. For the most part, these Acts have produced at least some of the intended results. Elimination of any one of these Acts would not significantly alter consumer disposable income. However, the conglomeration of all these acts together siphon off a very sizeable portion of our paychecks each month. We should be given a voice in deciding on the quality of air and water we wish to purchase.

Choice is not that much different from that faced by a consumer in his expenditures for everyday commodities like groceries. A shopper in search of potatoes is not limited to only the two options of buying no potatoes or buying all the potatoes available. He only wants enough for one meal, or he may be willing to purchase a larger quantity for future consumption if the price is right. He certainly does not have to buy all the potatoes that are available. There are two reasons why he would not want to do this. First, cost would be prohibitive. Second, the real benefits come from only the few potatoes he is able to consume out of the lot. Pollution abatement is a similar commodity. We can buy some, but we do not have to buy everything available. I think most taxpayers agree that they do not want to purchase the equipment and pay operating costs to get the "best" pollution abatement technology available. Our daily purchases are based on compromise, why not this one also? At least we should be given more choice on how much we want to pay for this commodity.

TABLE 6

201 GRANTS FOR PUBLIC SEWAGE SYSTEM CONSTRUCTION IN MISSISSIPPI BY COUNTIES, JUNE 1981

County	Total Amount	Status and Number of Grants				
		Step 1	Step 2	Step 3	Step 4	Total Projects
Adams	374,804	1				1
Alcorn	536,524	1	1			2
Amite	30,510	2				2
Attala	31,875	3				3
Benton	14,834	2				2
Bolivar	2,716,758	7	4	2		13
Calhoun	1,639,288	4		1	2	7
Carroll	376,225	2			1	3
Chickasaw	60,111	3				3
Choctaw	27,448	3				3
Claiborne	923,212	2	1		1	4
Clarke	2,691,261	4	2	2	1	9
Clay	157,715	1				1
Coahoma	2,016,430	2	2	1	2	7
Copiah	241,295	3			1	4
Covington	121,517	3				3
De Soto	6,431,244	1	2	2		5
Forrest	66,611		1			1
Franklin	456,034	1			1	2
George	26,250	1				1
Greene	806,740	4				4
Grenada	1,028,356	1	2	2		5
Hancock	114,360	1				1
Harrison	2,437,033	2	3	3		8
Hinds	60,656,291	7	15	15	1	38
Holmes	575,198	2			2	4
Humphreys	221,220	2			1	3
Issaquena	385,442	1			1	2
Itawamba	1,725,614	2	2	4		8
Jackson	1,398,301		5	1		6
Jasper	759,132	1	2	1		4
Jefferson	18,433	1				1
Jefferson Davis	——					
Jones	669,576	2	2			4
Kemper	10,875	1				1
Lafayette	——					
Lamar	1,175,282	3	1	1	2	7
Lauderdale	25,090,302	1	3	3		7
Lawrence	34,950	2				2
Leake	55,493	2				2
Lee	19,879,729	2	3	3		8
Leflore	626,914	3			2	5
Lincoln	——					
Lowndes	566,058	2	2			4
Madison	533,904	1	2	1	1	5
Marion	56,097	1				1
Marshall	1,242,687	3	2	2		7
Monroe	76,500	1				1
Montgomery	296,679	3	1	1		5
Neshoba	187,358	2				2
Newton	1,450,342	2			1	3
Noxubee	29,625	1				1
Oktibbeha	7,168,261	3	1	1		5
Panola	1,322,132	3	2	2		7
Pearl River	1,289,497	2	1		1	4
Perry	29,310	2				2
Pike	1,719,246	1	3	1		5
Pontotoc	2,048,980	3			2	5
Prentiss	905,869	2	1	1		4
Quitman	1,512,860	2			2	4
Rankin	2,705,706	3	2	1	1	7
Scott	5,615,249	1	2	2		5
Sharkey	263,825	1		2		3
Simpson	387,660	2			1	3
Smith	4,089,316	3	1	1	1	6
Stone	120,750	1				1
Sunflower	470,430	2			1	3
Tallahatchie	1,148,673	3			1	4
Tate	——					
Tippah	141,894	1		1		2
Tishomingo	276,843	2		1		3
Tunica	21,000	1				1
Union	28,833	1				1
Walthall	27,375	1				1
Warren	3,518,224	1	1	1		3
Washington	898,200	1			1	2
Wayne	1,646,850			1		1
Webster	29,130	1				1
Wilkinson	436,798	2	1	1		4
Winston	30,000	1				1
Yalobusha	685,838	2	2	1	1	6
Yazoo	184,256	1				1

Source:Survey of Mississippi Manufacturers.

TABLE 7

NUMBER OF 201 FUNDED MUNICIPAL SEWAGE SYSTEM PROJECTS IN MISSISSIPPI
(AUGUST 1980)

	Step 1	Step 2	Step 3	Step 4	Total
Number of Grants	151	68	52	33	304
(% of Total)	(49.7)	(22.4)	(17.1)	(10.9)	(100)
Number of Communities Receiving Grants	151	49	39	33	272
(% of Total)	(55.5)	(18.0)	(14.3)	(12.1)	(100)

SOURCE: Mississippi Department of Natural Resources, Bureau of Pollution Control.

TABLE 8

SEWAGE SYSTEM CONSTRUCTION IN PROGRESS AUGUST 1980
(DOLLARS IN THOUSANDS)

	Step 1	Step 2	Step 3	Step 4	Total
Total 201 Grants in State	$14,169	$12,252	$101,751	$22,517	$150,689
(% of Total)	(9.4)	(8.1)	(67.5)	(14.9)	(100)
Estimated Total Costs of Grant Projects	$20,241	$17,503	$145,359	$32,167	$215,270
(% of Total)	(9.4)	(8.1)	(67.5)	(14.9)	(100)
Average Expenditures per Project	$134.0	$257.4	$2,795.4	$974.8	$708.1
Average Expenditures per Community	$134.0	$357.2	$3,727.2	$974.8	$791.4

SOURCE: Mississippi Department of Natural Resources, Bureau of Pollution Control.

MEET THE FACULTY

Dr. Loomis Harvey Toler

School of Accountancy

Dr. Loomis H. Toler is a Professor of Accounting at Mississippi State University. He received his B.S. in Business Administration from Atlantic Christian College; his M.B.A. in Business Administration from Louisiana State University and his Ph.D. in Accounting from Louisiana State University.

After completing his graduate degree, he came to Mississippi State University as an Assistant Professor in 1963. In 1967, Dr. Toler was appointed to be the Head of the Department of Accounting. He served as Head until 1979. Since then he has been a Professor in the Accounting Department. He has taught a wide variety of accounting courses including Principals, Intermediate, Management, Cost, Governmental and Theory of Accounting.

Dr. Toler served as National Director of the National Association of Accountants, from 1978-1981, and in 1974 he served as President of the Northeast Mississippi Chapter of that Association. He is also a member of the American Accounting Association and a number of other professional organizations.

He has chaired a session "Accounting Student Intern Programs," and was a panelist on a session "Faculty Promotion Standards," for the American Accounting Association. He has also participated in a seminar on Municipal Accounting for town clerks and tax assessors.

He has numerous research publications in the areas of Accounting, Finance, and Management. Some of which have been published in the **Handbook of Auditors, The Accounting Review**, and the **Mississippi Business Review**.

Dr. Toler is married to the former Emma Lou Griswold, who is a registered nurse. They have one daughter, Sandra Elaine, who is a junior at Starkville High School. His hobbies include reading, golf and traveling.

Sales Indicated By Sales Tax Collections During February, 1982 By County(000's)

Source: State Tax Commission

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Adams	1,224	29,146	**Lowndes**	1,519	45,262
Alcorn	683	18,742			
Amite	109	2,430	**Madison**	693	19,817
Attala	315	8,408	**Marion**	682	17,095
			Marshall	279	6,668
Benton	36	780	**Monroe**	581	15,908
Bolivar	538	13,398	**Montgomery**	174	4,260
Calhoun	166	4,021	**Neshoba**	404	13,344
Carroll	76	1,756	**Newton**	241	5,672
Chickasaw	221	5,502	**Noxubee**	130	3,610
Choctaw	79	1,811			
Claiborne	586	46,988	**Oktibbeha**	567	13,894
Clarke	160	3,924			
Clay	284	8,115	**Panola**	403	9,389
Coahoma	603	14,785	**Pearl River**	510	11,560
Copiah	285	6,471	**Perry**	83	2,217
Covington	392	9,304	**Pike**	812	19,023
			Pontotoc	214	5,323
DeSoto	588	17,532	**Prentiss**	312	8,401
Forrest	1,785	47,974	**Quitman**	88	1,754
Franklin	75	1,942			
			Rankin	1,297	35,856
George	259	6,925			
Greene	69	1,675	**Scott**	369	8,906
Grenada	408	11,660	**Sharkey**	103	2,352
			Simpson	363	9,296
Hancock	450	12,029	**Smith**	122	3,189
Harrison	3,002	77,158	**Stone**	150	3,523
Hinds	7,276	239,301	**Sunflower**	406	24,673
Holmes	246	5,507			
Humphreys	206	5,612	**Tallahatchie**	168	4,079
			Tate	280	6,679
Issaquena	14	349	**Tippah**	247	7,695
Itawamba	247	7,535	**Tishomingo**	274	7,527
			Tunica	95	2,125
Jackson	2,518	96,671			
Jasper	323	8,073	**Union**	285	7,546
Jefferson	72	1,829			
Jeff Davis	204	5,710	**Walthall**	184	4,855
Jones	2,074	48,977	**Warren**	1,056	23,751
			Washington	1,314	32,806
Kemper	70	1,525	**Wayne**	394	9,798
			Webster	116	2,749
Lafayette	438	10,341	**Wilkinson**	154	4,134
Lamar	225	6,138	**Winston**	172	2,661
Lauderdale	1,679	43,992			
Lawrence	148	3,889	**Yalobusha**	151	3,487
Leake	246	6,243	**Yazoo**	541	15,073
Lee	1,662	54,437			
Leflore	695	18,705			
Lincoln	567	15,073	**State Total**	50,378	1,458,154

NEW AND EXPANDED INDUSTRY

Town Firm Product	No. of Employees
NEW	
Vicksburg **Candoux Industries** Rail Cars	

EDITOR'S NOTE

The data series, total employment, found in "State Economic Indicators," has been published in error since January, 1978. **The Review** regrets any inconvenience this may have caused its readers, and is pleased to announce that the series is corrected in this issue. Published below are the corrected figures since January, 1978.

	1978	1979	1980	1981
January	861,400	893,900	912,000	914,300
February	863,300	904,800	919,500	921,500
March	881,700	920,000	940,200	934,200
April	888,700	921,900	943,900	940,400
May	904,000	942,100	961,700	946,400
June	907,500	939,400	951,600	933,900
July	911,500	945,900	960,100	934,900
August	909,400	931,900	952,200	920,300
September	916,300	942,000	964,600	935,000
October	912,900	943,100	965,100	940,700
November	907,900	920,100	949,900	927,900
December	903,700	922,900	939,500	951,100

INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS

[Seasonally Adjusted]
1969=100

Indicator	February 1982	January 1982	February 1981
Retail Sales	162.6	167.9	174.0
Electric Sales	188.3	200.6	200.6
Telephones in Service	231.7	231.4	227.5
Gasoline Gallonage	100.5	153.5	165.9
Loans of Savings & Loan Institutions	75.1	40.3	145.0

STATE ECONOMIC INDICATORS

Indicator	February 1982[1]	January 1982[2]	February 1982[2]	Per Cent Change One Month Ago[3]	Per Cent Change One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	953,300	939,000	944,900	1.5	0.9
Non-Ag Employment	808,600	806,900	813,700	0.2	− 0.6
Mining	12,900	12,800	11,600	0.8	11.2
Contract Construction	40,200	39,700	39,000	1.3	3.1
Manufacturing	212,400	213,100	218,800	− 0.3	− 2.9
Transportation and Public Utilities	40,300	40,400	39,600	− 0.3	1.8
Wholesale and Retail Trade	160,700	161,400	158,300	− 0.4	1.5
Finance, Insurance and Real Estate	32,900	33,000	32,400	− 0.3	1.5
Service	121,200	121,000	120,000	0.2	1.0
Government	187,900	185,400	194,100	1.4	− 3.2
Unemployment Rate (Per Cent Labor Force)	9.5	10.0	8.1	——	——
Average Weekly Earnings in Manufacturing (Dollars)	246.27	180.52	230.30	36.4	6.9
Average Hourly Earnings in Manufacturing (Dollars)	6.38	6.29	5.89	1.4	8.3
Average Weekly Hours in Manufacturing	38.6	28.7	39.1	34.5	− 1.3
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,927	2,769	3,031	5.7	− 3.4
Gasoline Delivered to Dealers (gals.)[6]	79,308	128,141	125,948	−38.1	−37.0
Dairy Production					
Milk (lbs.)[7]	67,000	69,000	65,000	− 2.9	3.1
Egg Production (No. eggs)[7]	115,000	133,000	128,000	−13.5	−10.2
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[8]	10,231	5,300	17,900	93.0	−42.8
Construction Loans	600	500	1,100	16.7	−45.5
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[9]	1,642,364	1,808,045	1,733,382	− 9.2	− 5.3
Telephones in Service (Number)[10]	1,536,845	1,534,862	1,508,866	0.1	1.9
RETAIL SALES ($000's)[11]	1,134,558	1,515,739	1,136,466	−25.2	− 0.2

Indicator	November 1961	October 1981	November 1980	Per Cent Change One Month Ago	Per Cent Change One Year Ago
AGRICULTURE ($000's)[12]					
Total Cash Receipts from Farm Marketings	419,520	466,666	344,832	−10.1	21.7
Cash Receipts from Marketing Livestock	68,168	88,551	70,296	−23.0	− 3.0
Cash Receipts from Marketing Crops	351,352	378,115	274,536	− 7.1	28.0

[1] Preliminary
[2] Revised
[3] Percent change calculated with revised figures; not comparable with previously published data.
[4] Mississippi Employment Security Commission
[5] State Oil and Gas Board for October, 1981
[6] Mississippi Motor Vehicle Comptroller
[7] Mississippi Crop and Livestock Reporting Service
[8] Federal Home Loan Bank of Little Rock
[9] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority
[10] South Central Bell Telephone Company
[11] Mississippi Tax Commission
[12] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month February	Per Cent Change		Current Month February	Per Cent Change		Current Month February	Per Cent Change	
		Month Ago	Year Ago		Month Ago	Year Ago		Month Ago	Year Ago
Aberdeen	8,368	—0.2	1.5	39,876	— 9.9	14.8	17,700	579,000	85,063
Baldwyn	4,781	—0.2	1.5	16,249	—24.4	—13.0	——	——	——
Batesville	9,336	—0.6	3.4	38,805	—32.9	—11.7	40,615	20,000	20,500
Bay Springs	——	——	——	19,315	—12.5	—16.4	——	——	——
Bay St. Louis	14,344	0.8	4.2	25,227	—16.5	—10.8	252,650	106,200	99,600
Belmont	2,390	0.4	2.8	7,733	—21.4	—12.3	——	——	——
Belzoni	5,153	—0.3	3.8	21,734	—23.5	— 9.3	31,000	4,800	6,000
Biloxi	46,804	0.1	1.8	178,285	—36.0	— 9.3	1,598,455	1,071,769	966,340
Brandon	11,477	0.5	—4.4	29,795	—28.1	14.2	14,100	80,000	606,496
Brookhaven	16,049	—0.5	—0.3	87,525	—33.4	—22.0	253,000	136,500	1,[illegible]1,525
Brooksville	1,316	0.0	0.5	2,143	—17.2	67.6	——	——	——
Canton	11,105	—0.3	2.0	44,446	—24.8	—15.3	——	59,600	13,800
Carthage	7,459	—1.0	—0.2	37,463	3.1	16.4	130,900	79,600	50,000
Charleston	4,244	—0.6	1.3	12,822	76.0	— 9.0	——	——	——
Clarksdale	20,642	—0.4	—1.8	95,313	—21.3	— 3.1	——	53,400	566,359
Cleveland	14,000	—0.2	—1.1	62,003	—37.7	—19.7	——	——	——
Collins	4,773	—0.3	2.8	30,867	—22.6	—15.5	——	——	32,500
Columbia	16,397	0.3	2.7	78,798	—10.8	11.0	——	——	——
Columbus	34,239	0.0	0.9	173,357	—36.8	— 4.6	134,430	196,592	344,709
Corinth	21,020	—0.4	0.1	93,817	—17.5	— 2.5	120,580	102,600	191,211
Crystal Springs	6,023	0.4	1.2	17,445	—21.1	— 6.7	2,000	12,000	6,000
Drew	2,943	—0.2	7.8	7,551	—29.1	—27.8	1,000	10,000	66,000
Edwards	1,723	—0.2	1.5	2,449	—33.8	—28.0	20,000	——	——
Ellisville	4,092	—0.5	2.4	12,557	—30.7	— 6.9	——	——	——
Eupora	4,495	—0.8	1.7	13,873	—24.9	— 7.7	——	——	——
Fayette	3,411	0.1	1.7	8,256	—10.9	—28.7	——	——	——
Forest	5,163	—0.8	1.0	38,401	—28.3	—13.1	——	——	——
Greenville	37,349	0.0	0.4	197,499	—31.4	— 2.4	——	——	——
Greenwood	23,966	—0.2	—0.5	97,488	—39.3	—25.9	212,500	23,000	207,400
Grenada	14,484	—0.2	0.4	60,760	—36.8	—17.3	99,000	76,000	126,000
Gulfport	63,797	0.1	2.3	204,918	—30.8	— 4.4	794,964	2,223,574	5,773,182
Hattiesburg	61,685	1.5	1.9	274,243	—33.6	— 3.9	890,276	363,560	1,152,514
Hernando	7,495	0.4	3.0	19,012	—20.5	—33.0	522,598	9,200	19,000
Hollandale	3,405	0.2	1.6	8,709	—33.7	—16.0	——	——	44,300
Holly Springs	7,779	—0.1	2.5	31,651	—14.5	— 1.7	18,900	539,465	115,000
Houston	5,734	—0.1	1.0	22,447	—29.1	—10.3	4,500	——	98,000
Indianola	7,922	0.1	0.6	52,554	—14.0	0.0	——	——	——
Iuka	5,794	0.0	0.9	26,545	6.6	— 1.3	——	——	——
Jackson	232,581	0.1	2.1	1,118,548	—31.2	— 7.4	2,853,486	2,488,881	4,098,347
Kosciusko	9,460	—0.6	—0.3	45,677	—14.9	— 7.8	——	36,600	215,200
Laurel	36,337	0.0	3 5	260,892	—40.0	—13.5	2,691,362	775,871	429,226
Leland	5,332	—0.1	1.1	13,310	—29.6	—32.4	19,500	—0—	65,645
Lexington	4,926	—0.2	1.8	17,237	— 4.2	2.5	——	——	——
Louisville	10,776	0.1	1.2	39,979	—13.8	— 6.7	114,658	17,400	88,400
Lucedale	8,617	—0.4	1.9	32,833	—20.0	3.7	29,600	32,000	4,000
Lumberton	2,990	0.3	1.6	5,552	—39.8	—26.0	——	——	——
Macon	3,819	0.2	1.9	12,784	—24.2	— 3.8	——	——	——
Magee	5,526	0.5	3.3	32,733	—31.3	— 3.2	——	——	——
Magnolia	4,431	0.6	3.0	7,270	—25.2	— 4.7	4,300	13,500	——
Marks	5,322	—2.9	—3.1	8,197	—53.3	—37.1	——	——	——
McComb	20,461	—0.1	2.4	99,100	—31.0	6.0	205,187	112,700	169,900
Meadville	——	——	——	3,741	—31.7	—15.2	——	——	——
Mendenhall	6,769	—0.2	3.2	15,331	—30.5	— 5.6	30,900	40,050	31,000
Meridian	47,861	0.2	—0.8	236,701	—44.5	—18.2	207,965	293,128	1,056,471
Monticello	5,089	0.1	3.0	14,443	—36.3	—21.8	——	39,500	123,420
Morton	3,627	0.1	2.2	15,130	—21.5	— 0.8	——	——	——
Moss Point	16,756	0.2	3.0	32,469	—33.6	—29.5	511,970	81,300	98,837
Natchez	31,070	0.0	3.4	188,952	—27.9	2.2	975,270	137,300	114,215
New Albany	11,543	—0.2	1.8	46,632	—13.9	— 5.6	39,000	127,500	80,200
Newton	4,214	0.1	2.6	21,385	—13.8	5.5	94,166	21,828	70,720
Ocean Springs	16,171	0.4	1.0	51,447	—30.1	— 8.5	——	——	229,360
Okolona	3,468	—0.9	—0.1	10,955	—33.5	—12.5	——	——	——
Oxford	21,802	0.2	0.0	70,307	—21.2	5.2	63,350	22,700	121,513
Pascagoula	37,568	0.8	5.8	168,817	—20.5	3.5	613,371	446,922	405,590
Pass Christian	5,868	0.6	4.4	10,724	1.8	13.5	227,070	391,980	151,414
Philadelphia	11,933	—0.1	2.0	41,620	—25.5	— 7.1	——	——	——

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month February	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month February	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month February	Per Cent Change Month Ago	Per Cent Change Year Ago
Picayune	16,390	0.3	4.1	65,002	−30.0	− 0.6	126,800	154,000	406,000
Pontotoc	9,566	0.1	0.7	33,977	−10.7	3.8	26,000	——	40,000
Poplarville	4,313	0.2	3.1	12,528	−27.5	− 6.7	25,600	2,000	39,100
Port Gibson	6,514	12.7	11.9	14,776	−24.3	− 1.6	——	——	——
Prentiss	4,637	0.2	2.8	15,977	−36.1	−16.4	——	——	——
Quitman	5,064	0.0	1.8	18,757	−29.8	−14.4	——	——	——
Raymond	3,328	−0.3	3.7	4,026	−12.3	−19.6	——	——	——
Richton	1,965	−0.4	−2.1	7,885	−24.9	−28.4	——	——	——
Rosedale	1,573	−0.8	−1.7	5,649	−20.9	−14.2	——	——	——
Ruleville	1,944	−0.3	2.3	6,321	−32.2	−44.0	——	——	——
Sardis	3,283	−0.5	−6.1	13,157	−17.3	−28.3	2,000	——	30,000
Senatobia	7,006	0.2	3.5	37,208	−15.5	2.8	13,150	106,000	47,800
Shelby	1,622	−0.7	−0.7	5,546	−38.1	−43.5	——	——	——
Starkville	25,639	−1.0	1.0	86,760	− 7.0	19.7	32,500	147,013	273,320
Summit	1,708	−1.2	3.8	6,500	−50.1	−20.8	——	——	——
Taylorsville	1,830	0.4	3.0	9,365	−17.5	− 0.8	——	——	——
Tchula	1,974	−0.4	−1.5	3,088	−31.6	−27.2	——	——	——
Tunica	4,276	−0.4	0.7	10,516	−35.2	−23.6	——	——	——
Tupelo	38,219	−0.1	1.0	237,084	−30.0	− 3.1	——	40,150	330,880
Union	2,889	0.5	3.6	9,388	−36.6	−30.0	——	——	——
Utica	3,129	0.1	2.3	7,397	−15.3	− 7.5	——	——	
Vicksburg	39,673	0.5	1.1	153,302	−31.3	5.3	687,967	169,541	81,050
Walnut Grove	1,068	0.8	2.0	1,546	−24.1	43.7	——	——	——
Water Valley	4,243	−0.3	3.8	18,777	−17.9	−11.3	86,170	50,500	4,250
Waynesboro	7,977	−0.2	2.6	51,721	−21.1	−11.9	16,585	50,000	——
West Point	12,666	−0.1	2.2	44,874	−13.6	17.8	4,000	171,500	179,800
Wiggins	6,369	0.1	0.4	18,119	−25.5	−12.4	——	31,000	1,500
Winona	5,020	0.0	−0.1	25,394	−14.2	−12.1	——	——	——
Yazoo City	12,669	−0.2	1.4	53,824	−27.5	− 9.2	——	——	——

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON **[Hinds and Rankin Counties]**	February 1982	January 1982	February 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	161,100	159,200	156,100	1.2	3.2
Unemployed Persons	10,500	11,400	9,100	− 7.9	15.4
Per Cent of Labor Force	6.45	7.1	5.8	——	——
Employed Persons	150,600	147,800	147,000	1.9	2.5
Non-Ag Wage & Salaries	130,800	128,900	128,100	1.5	2.1
Manufacturing	18,500	17,800	17,600	3.9	5.1
TELEPHONES IN SERVICE	252,238	252,069	247,819	0.1	1.8
CITY SALES TAX COLLECTIONS	1,162,215	1,683,206	1,250,079	−31.0	− 7.0

BILOXI-GULFPORT **[Hancock, Harrison and Stone Counties]**	February 1982	January 1982	February 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	67,850	67,320	65,070	0.8	4.3
Unemployed Persons	4,800	5,090	4,430	− 5.7	8.4
Per Cent of Labor Force	7.1	7.6	6.8	——	——
Employed Persons	63,050	62,230	60,640	1.3	4.0
Non-Ag Wage & Salaries	53,880	53,380	52,020	0.9	3.6
Manufacturing	8,840	8,560	8,280	3.3	6.8
TELEPHONES IN SERVICE	116,469	116,366	113,943	0.1	2.2
CITY SALES TAX COLLECTIONS	393,927	585,185	420,260	−32.7	− 6.3

---

[1] Preliminary

Selected Personal Income Tax Information Mississippi, Fiscal Year Ending June 30, 1981 By County

Source: Mississippi State Tax Commission, Service Bulletin.

County	Number Taxpayers	Gross Income Tax	Net Taxable Income
Adams	10,108	$ 3,740,901	$101,260,422
Alcorn	8,944	2,060,472	55,129,560
Amite	2,300	477,635	13,642,210
Attala	3,837	736,104	20,842,105
Benton	1,418	196,728	5,786,034
Bolivar	8,250	1,985,793	55,296,613
Calhoun	3,609	550,505	15,985,287
Carroll	1,532	205,490	6,072,030
Chickasaw	4,647	687,273	19,888,454
Choctaw	1,525	240,928	7,035,257
Claiborne	2,298	548,576	15,401,921
Clarke	3,941	793,025	22,882,688
Clay	5,056	1,024,781	29,755,284
Coahoma	6,468	2,034,703	55,576,503
Copiah	5,551	1,033,200	29,576,360
Covington	3,464	625,067	17,770,543
DeSoto	13,423	3,812,565	108,155,538
Forrest	16,445	4,564,316	126,830,241
Franklin	1,685	377,908	10,799,691
George	3,812	653,555	19,064,454
Greene	1,848	260,366	7,640,187
Grenada	5,356	1,002,783	28,917,910
Hancock	5,072	1,371,991	38,010,816
Harrison	36,484	8,646,679	243,412,988
Hinds	82,875	25,634,563	705,101,350
Holmes	3,047	632,311	17,694,429
Humphreys	1,921	517,671	14,223,022
Issaquena	352	105,471	2,873,041
Itawamba	4,927	698,653	20,733,267
Jackson	32,435	7,910,946	224,899,336
Jasper	3,779	804,277	22,647,466
Jefferson	1,826	281,550	8,007,366
Jeff Davis	2,585	640,881	17,948,066
Jones	15,205	4,007,436	112,820,848
Kemper	1,755	282,475	8,172,787
Lafayette	5,894	1,576,860	43,830,818
Lamar	5,401	1,270,134	35,951,427
Lauderdale	18,610	5,154,106	143,833,486
Lawrence	2,932	753,356	21,211,136
Leake	3,848	592,401	17,161,916
Lee	17,874	4,041,563	114,567,380
Leflore	7,882	2,205,215	60,831,108
Lincoln	7,343	1,886,295	52,939,105
Lowndes	13,800	$ 3,152,228	$89,355,511
Madison	8,791	2,457,173	63,593,198
Marion	6,102	1,447,164	40,521,677
Marshall	5,060	823,456	23,835,669
Monroe	9,257	1,710,738	49,582,233
Montgomery	2,451	436,339	12,552,785
Neshoba	5,216	885,086	25,590,644
Newton	4,404	761,665	22,145,578
Noxubee	2,132	466,220	12,943,912
Oktibbeha	7,342	1,855,645	52,256,222
Panola	5,931	1,094,824	31,084,272
Pearl River	7,371	1,800,551	50,418,496
Perry	2,091	313,812	9,137,573
Pike	7,686	1,747,196	49,147,542
Pontotoc	5,157	657,001	19,417,635
Prentiss	6,069	818,771	24,106,308
Quitman	2,130	479,919	13,434,924
Rankin	18,961	5,558,185	157,375,757
Scott	5,154	800,865	23,352,921
Sharkey	1,209	405,325	11,095,175
Simpson	5,197	1,005,333	28,793,963
Smith	3,024	510,768	14,965,908
Stone	2,491	459,718	13,271,753
Sunflower	5,207	1,368,428	37,989,894
Tallahatchie	2,402	538,962	14,906,634
Tate	4,319	913,997	26,120,469
Tippah	4,543	655,274	19,386,942
Tishomingo	5,540	961,146	28,071,058
Tunica	1,061	428,197	11,487,989
Union	5,980	983,659	28,758,852
Walthall	2,467	470,448	13,387,767
Warren	14,579	4,357,848	121,490,690
Washington	15,706	4,220,928	116,740,350
Wayne	4,075	804,167	22,781,375
Webster	2,358	369,210	10,829,524
Wilkinson	1,669	429,198	11,870,372
Winston	4,012	757,829	21,638,666
Yalobusha	3,308	540,106	15,637,228
Yazoo	5,230	1,597,435	44,097,193
Sub-Total	599,026	$145,672,328	$4,083,355,109
Out-of-State	38,198	7,338,909	205,345,152
State Total	637,224	$153,011,237	$4,288,700,261

Dr. Theodor Kohers

Dr. W. Gary Simpson

Dr. Theodor Kohers is a Professor of Finance at Mississippi State University. He received his undergraduate degree from the University of Washington and his graduate degrees from the University of Oregon.

Dr. W. Gary Simpson is an Associate Professor of Finance at Oklahoma State University. He received his Ph.D. from Texas A & M University and MBA from Southern Methodist University.

TABLE OF CONTENTS

Market Structure as a Factor in the Performance of Savings and Loan Association 3
Tourist Briefs - The Magnolia Hotel 13
Meet the Faculty
  Dr. Patricia Sanderson 14
  Dr. Charles N. Moore 15
Sales Indicated By Sales Tax Collections 16
New and Expanded Industry 16
Indexes of Selected Mississippi Economic Indicators 16
State Economic Indicators 17
Business Activity By City 18
SMSA 19
Annual Wages of Workers Covered by Mississippi Employment Security Law 20

VOLUME XLIII MAY, 1982 NUMBER 11

James D. McComas, Ph.D.
President, Mississippi State University
Gaines M. Rogers, Ph.D.
Dean, College of Business and Industry
Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing
Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics
Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics
Louis M. Capella, D.B.A.
Editorial Advisor
Orris L. Odom, II, Ph.D.
Editorial Advisor
Gary A. Williams, D.B.A.
Editorial Advisor
Donna M. Reddish
Assistant Editor
Dale Adams
Secretary
Diane Dendy
Secretary
Sadia Al-Jibouri, M.B.A.
Research Assistant

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

Market Structure as a Factor in the Performance of Savings and Loan Association

by

Dr. Theodor Kohers and Dr. W. Gary Simpson

One of the more important recent developments in the savings and loan industry has been a trend toward the consolidation of financial resources into a smaller number of firms. The number of savings associations has steadily decreased from 6,320 at the end of 1960 to 4,770 at the end of 1977 [14, p. 48]. As of 1977, 7.0% of the total number of associations held 50.5% of the total assets of the industry [14, p. 53]. The reduction in the number of firms in the savings and loan industry has resulted primarily from a significant merger movement in which 1,157 mergers of Federal Home Loan Bank member associations occurred between 1960 and 1977 [14, p. 54]. The period 1970-1975 was a particularly active period of consolidation as 724 mergers of Federal Home Loan Bank member associations occurred [14, p. 54].

When a trend toward concentration of resources develops in an industry, the question normally arises as to the effect concentration will have on competitive conditions in that industry. The purpose of this investigation is to empirically examine the structure-performance relationship for savings and loan association markets. Despite a substantial body of evidence on the structure-performance relationship for commercial banks, a limited amount of evidence presently exists on the structure-performance relationship for savings associations.[1] Verbrugge and Shick [15] analyzed the relationship between concentration and savings and loan association profitability for a sample of 104 associations with cross-sectional data for the years 1971 and 1972. Davis and Verbrugge [4] investigated the impact of concentration on rates charged for mortgage credit, the extension of mortgage credit, and the rates paid on savings deposits with a sample of 800 individual associations for the years 1972 and 1973.

This paper extends these previous efforts in several ways. First, a new sample is used which tests the generality of the Davis and Verbrugge [4] results and provides a larger sample than the Shick and Verbrugge [15] study. In addition, the market area is emphasized in the sampling procedure instead of individual associations as suggested by Rhoades [11, p. 11]. Second, the Herfindahl Index is used as the basic measure of concentration because it considers the relative size distribution of all firms in a market rather than the largest firms, as do concentration ratios.[2] Third, a dynamic concentration measure is investigated which was not used in previous research on savings association markets. Fourth, the critical level of concentration is more carefully explored. Finally, the analysis covered a longer time period and, therefore, permitted the consideration of a wider range of economic conditions.

The next section of this paper presents the hypothesized relationships that were empirically tested. The third section describes the specific measures of concentration used in the analysis. The fourth section briefly describes the sample and the fifth section discusses the empirical models used to test the hypothesized relationships. The sixth section reports the results of the empirical analysis and the final section considers the implications of the empirical analysis.

HYPOTHESES

The specific aspect of market structure to be explored in this paper is concentration which is the number and relative size of the firms in a market. The specific performance dimensions to be evaluated are price, profitability, and output. Theory suggests that markets characterized by higher levels of concentration should produce higher prices, higher profits, and lower output, **ceteris paribus**.[3] The following conceptual relationships form the basis for the hypotheses to be tested:

$$M, R, P = f(C, X)$$

where

M = the volume of mortgage credit extended by the savings associations located in a market.

R = the price of mortgage credit extended by the savings associations located in a market.

P = the profitability of the savings associations located in a market,

C = the degree of concentration in the market, and

X = a set of control variables.

It is hypothesized that a significant relationship exists between market performance and concentration which may be expressed as follows:

$$\frac{\partial M}{\partial C} \quad 0, \ \frac{\partial R}{\partial C} \quad 0, \text{ and } \frac{\partial P}{\partial C} \overset{\partial}{>} 0.$$

The relationship between the rates paid on savings deposits and concentration was not investigated in this paper because of the influence of Regulation Q type ceilings. The distortions caused by rate ceilings basically invalidate the theoretical framework of this analysis as the empirical results of Davis and Verbrugge [4, p. 47] appear to indicate. While usury laws will potentially influence mortgage rates in a similar manner, the influence of usury laws was not initially considered to be as pervasive as the effect of deposit rate ceilings. Furthermore, by avoiding the analysis of savings markets, it was not necessary to assume that deposit markets and mortgage markets were identical. This analysis explored the markets for mortgage credit and the concentration measures were based on total assets, which were mainly mortgage loans, not savings deposits.[4]

MEASURES OF CONCENTRATION

The specific measurement of market concentration presents several difficult problems. The literature on industrial organization and banking structure reveals numerous approaches to the measurement problem [8, 11, 16]. However, there appears to be three important facets of concentration that should be evaluated: static concentration, dynamic concentration, and the critical level of concentration.

The Herfindahl Index is believed to be a good measure of static concentration because it considers the size distribution of all firms in the market by including both the number of firms and size of the firms. The Herfindahl Index is defined as:

$$H_{it} = \overset{n}{\underset{u=1}{\leq}} S_u^{\,2} \qquad (2)$$

where

H_{it} = Herfindahl Index for the ith market in time period t,

$u = 1 \cdots {}_n$ and represents the individual associations in the market,

$S_u = A_u / \overset{n}{\underset{u=1}{\leq}} A_u$ = share of market controlled by the uth firm,

A_u = assets of the uth firm in the market, and

n = total number of firms in the market.

A market with a single savings and loan association would have a Herfindahl Index of one and the index would decrease as the number of firms increased. A value for the Herfindahl Index closer to one indicates a higher degree of concentration than a value closer to zero [6].

The possibility exists that the behavior of firms in a market is influenced by the manner in which the market structure has evolved over time [6, 7]. Because theoretical justification exists for the aforementioned proposition, the Dynamic Herfindahl Index was included as a measure of the change in the concentration of a market [6]. The Dynamic Herfindahl Index may be defined as:

$$\tilde{H}_{it} = H_{it} - H_{ib} \qquad (3)$$

where

$\tilde{H}_{it}$ = Dynamic Herfindahl Index for the ith market in period t, and

H_{ib} = Herfindahl Index for ith market in a base period b which is prior to period t.

If the Dynamic Herfindahl Index is negative, concentration in the market has decreased over time while a positive value for $\tilde{H}$ indicates that concentration has increased since the base year.

It has been hypthesized that the relationship between concentration and performance is discontinuous at some critical level.[5] This proposition suggests that concentration may have a small influence upon performance below some threshold level. However, once the critical level is achieved, the market behavior closely approximates a monopoly so that the price-output relationship is not likely to change with more concentration. Above the threshold level, firms are hypothesized to consider their direct and indirect influence on prices. When the number of firms reaches the point where the firms do not consider their interdependence and assume rival prices to be constant, the market behavior rapidly approaches perfect competition, regardless of the number of firms [9].

Because the critical level of concentration is partially determined by the type of collusion in a particular market, theory does not suggest the precise threshold for concentration. Some empirical investigations have simply assumed the level to be relatively high and tested an arbitrarily selected level. A more satisfactory approach involves an analysis with regression equations where binary variables represent various degrees of concentration [9, 17].

The approach taken in the present investigation was to first develop nine levels of concentration based upon the Herfindahl Index. These levels began at .1 and increased in equal steps to .9. Then a dichotomous dummy variable, H^{*}_{it}, was developed so that $H^{*}_{it} = 1$ if $H_{it} \geq Z$ and $H^{*}_{it} = 0$ if $H_{it} \leq Z$ where Z represents the previously determined levels of the Herfindahl Index. This dichotomous dummy variable was then included in regression equations as the measure of concentration. The regressions were repeated for each of the nine levels to test for the significance of the dummy variable.

SAMPLE

A sample of 75 financial markets per year for the years 1972, 1974, and 1976 was selected from the Ninth Federal Home Loan Bank District which includes the states of Arkansas, Louisiana, Mississippi, New Mexico, and Texas. The markets used in the sample were based on either an SMSA or county delineation and were relatively well defined. Only markets where a major portion of the associations confined their operations to the SMSA or county could be included. Once a county or SMSA was included in the sample, all associations in the market were considered which resulted in 206 associations being included.

An examination of Table 1 reveals a geographic distribution of the sample markets which roughly corresponds to the number of markets and associations in each state. This is not surprising as markets were selected randomly based on the aforementioned criteria.

Table 1 reveals a rather wide range of concentration existed in the sample markets. While a substantial number of sample markets had Herfindahl

tration contained sufficient sample markets so that several levels of concentration could be explored in the regression analysis.

EMPIRICAL MODELS

Output of Mortgage Credit

The following linear regression equation was estimated to test the relationship between output of mortgage credit and concentration:

$$M_{vit} = a + B_1 C_{it} + B_2 K_{vit} + B_3 D_{it} + B_4 N_{vit} + B_5 R_{vit} + B_6 Q_{vit} + e \qquad (4)$$

where

M_{vit} = Total mortgage loans to total assets for the vth association located in the ith market for time period t,

C_{it} A general measure of concentration for the ith market in time period t, or more specifically, H_{it}, $\hat{H}_{it}$, and H^{*}_{it} .

K_{vit} = Interest paid on deposits to total deposits for the vth association located in the ith market for time period t,

D_{it} = Per capita income in the ith market in time period t,

N_{vit} = Advertising expense to total assets for the vth association located in the ith market in time period t,

R = Interest on mortgage loans to total loans for the vth associations located in the ith. market for time period t,

Q_{vit} = Natural log of total assets for the vth association located in the ith market in time period t,

v = 1. . . . 206 and represents the individual associations,

i = 1. . . . 75 and represents the individual markets,

t = years tested, i.e. 1972, 1974, 1976,

a = a constant term,

ε = a random error term with a zero mean and constant variance, and

B = a partial regression coefficient.

The ratio of total mortgage loans to total assets was used to approximate the output of mortgage credit because a higher value for this ratio means more mortgage loans have been extended in the market and a smaller amount of funds invested in liquid assets.

The primary hypothesis is that a lower mortgage loan/total asset ratio will result from a higher level of concentration.

Several other factors were hypothesized to affect the output of mortgage credit and therefore five control variables were included in the model. The ratio of interest paid on deposits to total deposits was used as a measure of the cost of funds to an association. The higher the cost of funds, the more funds that would be invested in higher yielding mortgage loans and the lower the investment in lower yielding liquid assets. Per capita income in the market was considered a proxy for the demand for mortgage credit and a higher per capita income was hypothesized to result in a higher output of mortgage credit. Because advertising is an alterntive to competition through the extension of credit, advertising expenses/total assets should be inversely related to output of mortgage credit. The rate charged on mortgage credit was approximated by the ratio of interest on loans to total loans. It was hypothesized that higher rates on loans would reduce demand for credit and thus reduce the ratio of mortgage loans to total assets. Larger associations were hypothesized to have a higher mortgage loan/total asset ratios.

Rates on Mortgage Credit

A second linear regression equation was estimated to test the hypothesized relationship between rates charged on mortgage loans and concentration:

$$R_{vit} = a + B_1C_{it} + B_2K_{vit} + B_3D_{it} + B_4N_{vit} + B_5W_{vit} + B_{6\ vit} + \varepsilon \qquad (5)$$

where

W_{vit} = Slow mortgage loans to total mortgage loans for the vth association located in the ith market in time period t.

Due to the difficulty of obtaining actual market rates, the ratio of interest on mortgage loans to total mortgage loans was employed to measure the interest rates charged on mortgage credit. Theory indicated a positive relationship between the rates charged for mortgages and the degree of concentration in a market.

To hold other factors constant, a set of five control variables was included in the model. Because savings and loan associations must maintain an adequate spread between the cost of deposits and the rates charged for mortgages, the ratio of interest on deposits to total deposits should be positively related to the ratio of interest on mortgage loans to total mortgage loans. The demand for mortgage loans, as measured by per capita income in the market area, was hypothesized to be positively related to rates charged for mortgage loans. Higher levels of nonrate competition, as measured by advertising expenses/ total assets should be positively related to rates on mortgage loans because nonrate competition is hypothesized to be a substitute for rate competition. The level of slow loans in a mortgage portfolio has been suggested as a proxy for the default risk embodied in a mortgage portfolio. If savings associations invest in higher risk mortgages, then the rates should be higher for mortgage loans. Because economies of scale may exist in savings and loan associations operations, the rates on mortgage loans at large associations should be lower than rates at small associations if some of the economies are passed on to borrowers [2].

Savings and Loan Association Profitability

The relationship between profitability and concentration was empirically examined with the following linear regression equation:

$$P_{vit} = a + B_1C_{it} + B_2K_{vit} + B_3D_{it} + B_4N_{vit} + B_5W_{vit} + B_6Q_{vit} + B_7R_{vit} + \qquad (6)$$

where

P_{vit} = Net income to total assets for the vth association located in the ith market for time period t.

The ratio of net income to total assets was used to measure profitability and a positive relationship between return on total assets and concentration was hypothesized.

Six control variables were included in the profitability model to account for influences on profitability other than concentration. Interest paid on deposits/total deposits was hypothesized to be inversely related to return on total assets because higher cost inputs should reduce profitability. Higher demand for mortgage credit should result in higher profits so the per capita income in a market was included as a control variable. Higher levels of nonrate competition should adversely affect profitability so that advertising expenses/total assets should be inversely related to return on total assets. The ratio of slow loans to total loans should be positively related to the ratio of net income to total assets because the acceptance of higher risk should result in higher profitability. If economies of scale do exist, then larger associations should be more profitable so that the log of total assets should be positively related to return on total assets. The rate charged for mortgage loans should affect profitability so that higher rates on mortgage loans should result in higher profits, given expenses are similar.

RESULTS

Static Concentration and Performance

The regression equations for the rates on mortgage credit did not indicate a significant relationship between concentration and the rate charged for mortgage credit (Refer to Table 2). The explanatory power of the 1972 and 1974 equations was quite low with R^2's under .1. The 1976 equation exhibited better explanatory power and was significant. However, there was no support for the hypothesized relationship between concentration and rates on mortgage credit in any of the years studied.[7] Perhaps, usury laws in the sample states prevented the savings associations from exploiting their market power through higher interest rates. It is also possible that the proxy measure for market rates did not adequately capture true market rates.

The regression equations which tested the relationship between profitability (Pvit) and concentration revealed that the null hypothesis of $B_1 = 0$ could not be rejected.[8] While the explanatory power of the equations was once again relatively low, all of the equations were significant.

The regression equations for static concentration and the output of mortgage credit revealed a significant negative relationship which conformed to the hypothesized relationship.[9] The explanatory power of the equation was higher, particularly 1976 which had an R^2 of .544, and the regression equations were significant in all years. The regression coefficients of the control variables were generally consistent as to magnitude and sign over time and generally conformed with the hypothesized relationships.[10] The results of the mortgage credit output equations appeared to be reliable and gave support to the hypothesized relationship between market structure and the extension of mortgage credit.

Dynamic Concentration and Performance

The empirical investigation of the relationship between the Dynamic Herfindahl Index and savings association performance gave no indication of a significant relationship for price, output, or profitability. The failure to locate an empirical relationship between dynamic concentration and performance parallels the evidence from previous banking structure research [6].

The Critical Level of Concentration and Performance

The regrssion analysis with the dichotomous concentration variable did not indicate a discontinuous relationship between concentration and the profitability of savings and loan associations (Refer to Table 3). The concentration variable was significant in only one instance which provides no support for a threshold concentration level because the dichotomous variable should continue to be significant as the Herfindahl Index increases if a true critical level existed.

The 1972 and 1974 equations gave no indicationo f a critical level of concentration for the interest rates on mortgages because the dichotomous concentration variable was not significant in any of the equations (Refer to Table 3). However, the concentration variable was significant at the .6, .8, and .9 levels in 1976 which does suggest the possibility of a critical level. The dichotomous variable representing the .7 level had a t-value of 1.8665 which was almost significant at the .05 level. The positive signs for the concentration variable at the .6, .7, and .8 levels suggests that as the level of concentration reaches a Herfindahl Index of .6, interest rates on mortgages increase. The negative sign of the dichotomous variable at the .9 level does not conform with the other results and does not support the critical level hypothesis.

The 1972 equations for the output of mortgage credit gave no indication of the threshold level of concentration because none of the regression coefficients were significant (Refer to Table 3). The 1974 equations produced no evidence of a critical level of concentration for the output of mortgage credit because all of the coefficients were significant. The 1974 equations suggest that the relationship between concentration and the output of mortgage credit is continuous and therefore any change in the amount of concentration in a market is likely to affect performance. The 1976 equations were significant at the .1 through .6 levels but were not significant from the .7 to .9 levels. The 1976 results did not support a critical level because prior to reasoning suggests that the dichotomous variable would become significant at the critical level and remain significant at higher levels which is the opposite result noted in the 1976 analysis. There does appear to be a plausible explanation for the 1976 equations when it is noted that the t-values for the .7, .8, and .9 levels are only slightly below the necessary magnitude to indicate significance at the .05 level. This would once again indicate a continuous relationship.[11]

SUMMARY AND CONCLUSIONS

The results of the empirical analysis suggest that the output of mortgage credit was lower in more concentrated markets but there was no indication of a significant relationship between concentration and the rates charged on mortgage credit or profitability. One possible explanation for these results is that regulatory constraints on deposit rates and loan rates prohibit savings associations from exploiting market power to produce higher loan rates and higher profits. Furthermore, these same non-market constraints could conceivably encourage savings and loan association managements to exercise any available market power through lowered mortgage loan to asset ratios which would reduce risk for the association and managers. However, these possible explanations can neither be confirmed nor denied by the present evidence but further research on these topics should be valuable.

The empirical analysis did not support the critical level of concentration hypothesis. To the contrary, there was some evidence that a continuous negative relationship exists between concentration and the amount of mortgage credit extended. In addition, the empirical tests did not support the hypothesis that the evolution of the structure of a market influences the performance of the savings associations in the market.

The primary implication for public policy decisions of the empirical results is that concentration in savings and loan association markets appears to have a detrimental effect on the amount of mortgage credit extended. Therefore, the public would be better served by policies which reduce concentration and encourage competition in local markets for financial services.

FOOTNOTES

1. Refer to Rhoades [11] for a good summary and critique of the evidence on the structure-performance relationship in commercial banking. Refer to Bain [1] for a complete explanation of the hypothesis.
2. Rhoades [11 p. 24] points out this difference but also suggests that the concentration ratio or Herfindahl Index would be equally good structural measures. Because previous savings and loan association research used concentration ratios, the Herfindahl Index was used to provide the added dimension of the size dispersion of all firms in a market. Rhoades [11 p. 25] further suggests that the number of firms is a less desirable structural measure.
3. Refer to Bain [1] and Rhoades [11] for a complete development of the structure-performance hypothesis. Also, see Chamberlin [3], Robinson [13], Vernon [16], and Ferguson [5] for additional development of these theoretical relationships.
4. The Herfindahl Indexes were computed with the total assets of the savings and loan associations in a market. Mutual savings banks did not operate in the sample markets and commercial banks were not considered important forces in the mortgage credit markets. It would have been desirable to include the number of commercial banks as a control variable but the number of commercial banks was highly correlated with the Herfindahl Index. Because of lack of data, the activities of mortgage companies could not be included although this would have been desirable.
5. Chamberlain [3] originally suggested this proposition. Refer to Rhoades [12] for a discussion of the implications of a discontinuous relationship. Meehan and Duchesnaeu [10] located evidence of a threshold level of concentration for industrial firms and Heggestad and Mingo [9] and Yeats [17] found a discontinuous relationship in banking markets. Verbrugge and Shick [15] and Davis and Verbrugge [4] found evidence of a discontinuous relationship for savings and loan association markets.
6. Davis and Verbrugge [4] selected values of .65 and .75 for the five firm concentration ratio and Verbrugge and Shick [15] selected a value of .6 for the three firm concentration ratio.
7. Davis and Verbrugge [4] found a significant positive relationship between interest and origination fees on mortgage loans/average mortgage loans and most of their concentration measures. The results of the present analysis could differ from the Davis and Verbrugge results because of the inclusion of origination fees which would not be subject to usury ceilings.
8. Verbrugge and Shick [15] found a significant positive relationship between profitability and concentration.
9. Davis and Verbrugge [4] found a significant negative relationship between the mortgage loans to total assets ratio and the five firm concentration ratio for all financial institutions in the market. However, a majority of the concentration measures tested by Davis and Verbrugge were not significantly related to mortgage output.
10. For all of the regression equations in this analysis, the control variables that were significant carried the correct sign in almost all cases. The one exception was per capita income in the market area which was originally hypothesized to represent demand. This variable was important because it was significant in several equations, but the variable appears to have measured a different relationship because it often exhibited the incorrect sign.
11. The threshold concentration variables in the Davis and Verbrugge [4] analysis were significant in some equations and not significant in others. As a general statement, the results could not confirm or deny a critical level of concentration. The threshold concentration variable in the Verbrugge and Shick [15] study was not significant.

TABLE I

CHARACTERISTICS OF THE SAMPLE MARKETS

GEOGRAPHIC DISTRIBUTION

Location	Number of Markets	Number of Associations
Arkansas	13	29
Louisiana	16	77
Mississippi	10	15
New Mexico	4	11
Texas	32	74
Total	75	206

CONCENTRATION DISTRIBUTION

	Number of Markets		
Herfindahl Index (H_{it})	1972	1974	1976
.0 - .09	1	1	1
.1 - .19	1	1	2
.2 - .29	7	7	6
.3 - .39	10	9	9
.4 - .49	3	4	3
.5 - .59	14	17	17
.6 - .69	6	5	6
.7 - .79	3	0	1
.8 - .89	0	2	1
.9 - 1.00	30	29	29
Total	75	75	75

SMSA-NON-SMSA DISTRIBUTION

	Number of Markets			Number of Associations		
Market Type	1972	1974	1976	1972	1974	1976
SMSA	23	23	25	126	126	133
County	52	52	50	80	80	73
Total	75	75	75	206	206	206

SIZE DISTRIBUTION

	Number of Markets			Number of Associations		
Total Assets (millions)	1972	1974	1976	1972	1974	1976
$ 0 - 9	11	7	4	11	7	4
10 - 19	16	13	12	19	15	16
20 - 49	19	23	16	31	34	22
50 - 199	18	15	24	56	44	47
200 - 499	9	13	13	43	49	48
over 500	2	4	6	46	57	69
Total	75	75	75	206	206	206

Table 2

Regression Results for

The Relationship Between Static Concentration and Market Performance (Regression Coefficients and t-values)

Independent Variables	Output of Mortgage Credit - M_{vit}			Rates on Mortgage Credit - R_{vit}			Profitability of the Associations - P_{vit}		
	1972	1974	1976	1972	1974	1976	1972	1974	1976
Static	- .0370*	- .0875*	- .0795*	- .0003	- .0003	.0022	.0003	- .0004	- .0005
Concentration - H_{it}	(2.4407)	(5.0548)	(4.3568)	(.2366)	(.6678)	(1.7303)	(.4796)	(.5924)	(1.1108)
Cost of	4.4612	- .8421	28.6795*	.2246	.0686	.8719*	- .1743	- .4491*	- .0510
Deposits - K_{vit}	(1.9042)	(.2324)	(14.4002)	(1.2095)	(.6099)	(7.0788)	(1.7309)	(3.2538)	(.9945)
Demand for	- .0000*	- .0000*	- .0000*	- 0000*	- .0000*	- .0000*	- .0000*	- .0000*	- .0000*
Credit - D_{it}	(3.4775)	(4.8908)	(2.3643)	(.4690)	(1.2313)	(1.2946)	(.3674)	(2.2264)	(2.3304)
Nonrate	7.3282	1.3576	8.3611	- .5999	.5134	.3820	-1.0015*	- .7983*	- .4215
Competition - N_{vit}	(1.1402)	(.1378)	(.5310)	(1.1781)	(1.7056)	(.3521)	(3.6262)	(2.1490)	(1.0459)
Portfolio				.0230	- .0040	.0213	- .0177	- .0406*	- .0024
Risk - W_{vit}				(1.0363)	(.3578)	(.4733)	(1.4734)	(2.9358)	(.1414)
Size - Q_{vit}	- .0022	.0086	- .0065	- .0010*	- .0003	- .0009*	.0004*	.0003	.0003
	(.4472)	(1.6217)	(1.0738)	(2.4882)	(1.6109)	(2.3824)	(1.9731)	(1.6903)	(1.7444)
Interest Rate	-4.4500*	-6.3761*	- 8.8689*				.0486	.1480	.0781*
on Mortgages - R_{vit}	(5.0011)	(2.7639)	(8.6119)				(1.2692)	(1.7038)	(2.9640)
R^2	.182	.195	.544	.070	.046	.257	.096	.132	.069
F-Value	7.390*	8.053*	39.527*	2.490*	1.601	11.482*	3.020*	4.311*	2.098*

* Indicates significance at the .05 level.

Table 3

Regression Results for the Relationship between the Critical Level of Concentration and Market Performance (Regression Coefficients and t-values)

Herfindahl Index Level - Z	Output of Mortgage Credit - M_{vit}			Rates on Mortgage Credit - R_{vit}			Profitability of the Associations - P_{vit}		
	1972	1974	1976	1972	1974	1976	1972	1974	1976
.1	- .0010	- .0566*	- .0668*	- .0010	- .0002	- .0007	.0005	- .0003	- .0003
	(1.2112)	(4.2380)	(4.9242)	(1.2112)	(.4183)	(.6964)	(1.1211)	(.5674)	(.7483)
.2	- .0014	- .0430*	- .0554*	- .0014	- .0003	- .0007	.0007	- .0006	- .0001
	(1.7335)	(3.6701)	(4.4017)	(1.7335)	(.8729)	(.8567)	(1.6733)	(1.4100)	(.4393)
.3	- .0007	- .0370*	- .0390*	- .0007	- .0002	.0006	- .0002	- .0005	- .0001
	(1.0173)	(3.5228)	(3.5659)	(1.0173)	(.5205)	(.8216)	(.5495)	(1.2822)	(.4219)
.4	- .0002	- .0391*	- .0355*	- .0002	- .0002	- .0012	- .0002	- .0010*	- .0003
	(.2074)	(3.5923)	(3.3457)	(.2074)	(.5413)	(1.6864)	(.4289)	(2.4519)	(.9742)
.5	- .0002	- .0408*	- .0381*	- .0002	- .0000	.0008	.0001	- .0003	.0000
	(.2828)	(3.5633)	(3.4807)	(.2828)	(.1095)	(1.0455)	(.2449)	(.7211)	(.2098)
.6	.0009	- .0513*	- .0339*	.0009	- .0000	.0020*	.0007	.0001	- .0003
	(1.0435)	(4.3220)	(2.6762)	(1.0436)	(.1225)	(2.3446)	(1.5996)	(.2664)	(.8006)
.7	.0006	- .0439*	- .0231	.0006	- .0002	.0018	.0002	- .0000	- .0006
	(.7092)	(3.3044)	(1.6081)	(.7092)	(.3987)	(1.8665)	(.3564)	(.0000)	(1.5614)
.8	.0010	- .0410*	- .0226	.0010	- .0003	.0021*	.0000	.0000	- .0006
	(.9644)	(2.9898)	(1.5086)	(.9644)	(.6074)	(2.1100)	(.0316)	(.0316)	(1.4892)
.9	.0010	- .0429*	- .0238	.0010	- .0004	- .0009*	.0001	.0004	.0002
	(.9644)	(3.0856)	(1.5614)	(.9644)	(.8479)	(2.3145)	(.0316)	(.9000)	(1.6944)

Note: The same control variables were used in the critical level of concentration equations as the static concentration equations.

*Indicates significance at the .05 level.

REFERENCES

1. Bain, Joe S., **Industrial Organization**, Second Edition, New York, New York: John Wiley and Sons, Inc., 1968.
2. Benston, George J., "Economies of Scale of Financial Institutions," **Journal of Money, Credit, and Banking**, 4 (May 1972), 312-341.
3. Chamberlain, Edward H., **The Theory of Monopolistic Competition**, Eighth Edition, Cambridge, Mass.: Harvard University Press, 1962.
4. Davis, Harry M. and James A. Verbrugge, "Structure and Performance in the Savings and Loan Industry," **Journal of Economics and Business**, 31 (Fall 1978), 40-51.
5. Ferguson, Charles E., **Microeconomic Theory**, Third Edition, Homewood, Illinois: Richard D. Irwin, Inc., 1972.
6. Fraser, Donald R. and Peter S. Rose, "Static and Dynamic Measures of Market Structure and the Performance of Commercial Banks," **Journal of Economics and Business**, 28 (Winter 1976), 79-87.
7. Gort, Michael, "Analysis of Stability and Change in Market Shares," **Journal of Political Economy**, 71 (February 1963), 51-63.
8. Hall, M. and N. Tideman, "Measures of Concentration," **Journal of the American Statistical Association**, 62 (March 1967), 162-168.
9. Heggestad, Arnold A. and John J. Mingo, "The Competitive Condition of U.S. Banking Markets and the Impact of Structural Reform," **Journal of Finance**, 32 (June 1977), 649-661.
10. Meehan, James W. and Thomas D. Duchesnaeu, "The Critical Level of Concentration: An Empirical Analysis," **Journal of Industrial Economics**, 22 (September 1973), 21-36.
11. Rhoades, Stephen A., "Structure-Performance Studies in Banking: A Summary and Evaluation," **Staff Economic Studies**, No. 92, Board of Governors of the Federal Reserve System, 1977.
12. Rhoades, Stephen A., "The Concentration-Profitability Relationship: Policy Implications and Some Empirical Evidence," **Antitrust Bulletin**, 18 (Summer 1973), 333-354.
13. Robinson, Joan, **The Economics of Imperfect Competition**, London: Macmillan & Co., Ltd., 1933.
14. **Savings and Loan Fact Book**, Twenty-fifth Edition, United States Savings and Loan League, Chicago, Illinois, 1978.
15. Verbrugge, James A. and Richard A. Shick, "Market Structure and Savings and Loan Profitablility," **Quarterly Review of Economics and Business**, 16 (Summer 1976), 79-90.
16. Vernon, John M., **Market Structure and Industrial Performance: A Review of Statistical Findings**, Boston, Mass.: Allyn and Bacon, Inc., 1972.
17. Yeats, Alexander, "Further Evidence on the Structure-Performance Relation in Banking," **Journal of Economics and Business**, 26 (Winter 1974), 95-100.

MEMORIAL DAY

Tourist Briefs

THE MAGNOLIA HOTEL

Biloxi, Mississippi

The Magnolia Hotel is the oldest hotel known to survive on the Mississippi Gulf Coast. Employing regional construction techniques, the structure is one of only a few remaining examples of a regional hotel type. The building and it's history illustrate the close social and economic ties between the Mississippi Coast and New Orleans and document the historic importance of the tourist industry to the area.

The hotel was constructed in 1847 for a German immigrant, John Hohn, who had operated a coffee house or barroom in New Orleans. The contractor, Charles H. Kaufman of Biloxi, and Hohn were part of a large German population in Biloxi which, along with the French and other nationalities, has contributed to the international flavor still present in the area. Kaufman followed the "brick-between-posts" construction employed by the French on the Gulf Coast since the early eighteenth century. His design included the recessed two-story gallery to which all rooms opened, a design which was standard for contemporary hotels on the Gulf Coast.

After Hohn's death on April 4, 1848, his wife Elizabeth, operated the hotel, accommodating the annual summer influx of guests who came primarily from New Orleans to more than double the population of Biloxi. By 1854, Biloxi was the most popular resort on the coast with an estimated 6,000 annual visitors. Increasing sectional pride before the Civil War was partly responsible for the growing patronage of Southern resorts. In the 1880s, the hotel began to receive winter guests from the North as the Mississippi Coast acquired its present status as a year-round resort. The hotel continued to operate in both seasons under the management of descendants of John Hohn until shortly after the Second World War when it closed. The structure was acquired as part of urban renewal following the 1969 Hurricane Camille. The City of Biloxi purchased the hotel on March 16, 1972.

The Magnolia Hotel, as originally designed, was a two-and-one-half story, frame building measuring fifty-four feet on each side. The plastered exterior walls were recessed seven feet on all sides to form a surrounding two-story gallery with simple railing and posts. The principal elevation, including a gable end with kicked eaves, clapboard covering, and three openings, originally faced south onto the Gulf of Mexico. Among the five floor-length openings on each floor of this elevation, the central front door was distinguished by its greater width and its flanking paneled pilasters, sidelights, and rectangular transom. The rear (north) elevation matched that of the front but also included a pair of external stairs leading up from the central bay. The central bay of the five on each side elevation was left blank, but the others contained floor-length openings. Such openings on all elevations were originally closed by doubleleaf batten doors.

On the interior, a hall ran through the center on both floors from front to back. It was flanked on the first floor by paired rooms and on the second floor by six rooms on each side, all with at least one opening to the gallery. The original chimney was located between the western rooms and was equipped with two fireplaces. The walls and ceilings on the first floor and the exterior walls on the second floor were finished with mud and plaster over brick fill or laths. The partition walls and the second floor were composed of beaded, vertical boards and the ceilings there were left with the beaded joists exposed.

The building is presently undergoing repair for use as a visitor information center. The repairs include replacement of missing beaded gallery joists with new unbeaded joists composed of two members each, replacement of the missing rear doorway with a somewhat similar, though later, doorway and replacement of the exterior first-floor plaster with wire-mesh-bonded concrete stucco which, to prevent cracking, has been applied thicker than the original, resulting, in the stucco surface being flush with the exterior wood trim, obscuring the molding on the top of the baseboards.

Source: Mississippi Department of Archives and History, Jackson, Mississippi.

MEET THE FACULTY

Dr. Patricia Sanderson

Economics Department

Dr. Patricia Sanderson is Associate Professor of Economics, coming to MSU in 1979 from Oklahoma City University where she was head of the Finance Division. She holds a BA from Washington State University, MBA from Louisiana State University, and Ph.D. from the University of Oklahoma and has taught a wide variety of economic and finance courses.

Her research interest in economic feasibility and economic base studies has resulted in several area conferences and papers presented at professional meetings. Her primary publications have been in the area of international trade and development which includes "The Distributed Impact of Price-Level Variations on Floating Exchange Rates" published in the **Review of Economics and Statistics.** Several articles on the debt servicing ability of developing countries have been published.

She was involved in the development of Executive Seminars in International Business while at the University of Oklahoma and does extensive consulting in the areas of economic and financial analysis for corporations. Her broad background in both economics and finance has led to participation as a reader in the publication of several Principles of Economics textbooks.

She is currently President-Elect and Program Chairman of the Midsouth Academy of Economists, has served as editorial advisor for the **Mississippi Business Review**, has chaired sessions and served as a disscussant, and presented papers at meetings of the various professional organizations which she is a member including the American Economic Association, Southern Economic Association, Southwest Economic Association, and Missouri Valley Economic Association. She is Phi Chi Theta faculty advisor and serves on a variety of committees.

She is President of the children's organization, named Primary, in the Starkville Branch of The Church of Jesus Christ of Latter Day Saints (Mormon). She has two daughters, Evette, who is a student at the "W" and Ronda, who is in Junior High School. Her hobbies include playing the piano, gardening, and talking with her children.

MEET THE FACULTY

Dr. Charles N. Moore, Head

Business Statistics and Data Processing Department

He was a native of Alabama, but his mother was a Mississippian. Her father, C.S. North, was a lawyer who served as Hinds County Superintendent of Education for 30 years. Dr. Moore is a graduate of AuburnUniversity with B.S. degree in 1940 (Science and literature). He worked for a year and a half in Columbus, Georgia, in accounting and data processing until called to active duty with U.S. Navy in World War II. During this time he served as line officer on board various combat ships during amphibious invasions of Saipan. Tinian, Iwo Jima, and Okinawa.

Dr. Moore returned to civilian life in 1946 and earned a MBA degree with a major in accounting at University of Alabama in 1948. He wrote thesis entitled "An Expanded Concept of Public Accounting for Small Businesses" under the direction of Dean Paul Garner. He was a faculty member in the School of Commerce and Business Administration at the University of Alabama from 1948 to 1963. Moore earned a Ph.D. at University of Michigan in 1962 with a major in business statistics and minor in economics and finance. His dissertation research was in the area of productivity and efficiency in the automative trade under the direction of Professor Donald R.D. Cowan. He worked as Research Associate in Bureau of Business Research at University of Michigan doing survey research. At the University of Alabama he had a faculty research grant to do research in electronic data processing; was the main author of pioneering study in 1956 on **Electronics in Business Management** (published by the University of Alabama, Bureau of Business Research). Professor Moore taught the first course in an accredited school of business (1956) on electronic data processing. He did research on math models in business at University of Chicago under a Ford Foundation grant.

In the fall of 1963, he joined the faculty of College of Business and Industry at MSU where he organized and became head of the BSD department, the first department in an accredited school of business to prepare students for careers in business data processing. Since 1964 around 500 students have graduated from the BSD program at MSU, most of whom are holding down responsible positions in business data processing departments over the nation. Has written "dozens and dozens" of computer programs for instructional purposes - originally in machine language (or symbolic) and FORTRAN, and now mostly in BASIC ("the current language of the microcomputer"). Dr. Moore says, "In the 30 years since the installation of the UNIVAC I at the Bureau of Census in 1951, the most exciting event for educational purposes is the advent of the microcomputer (or personal computer) which now makes it feasible to have computers dedicated to instruction like the chalk and blackboard. An example of this is the BSD Lab, in McCool Hall when a dozen or more microcomputers are used daily by MSU students in scheduled classes."

He has presented papers at national and international conferences on data processing. Dr. Moore has been awarded a research grant with the U.S. Air Force and a Faculty Fellowship with IBM'S Systems Research Institute.

Dr. Moore's wife, Dorothy Grace Renzema from Grand Rapids, Michigan, died in 1975 leaving three children. Mary Grace is a research associate in the Institute for Social Research at the University of Michigan. Charles (Chuck) played varsity baseball at Auburn where he graduated in 1977. Currently he is studying civil engineering at MSU. Dora Joh graduated Summa Cum Laude in English in 1981 from MSU and is now employed at University of Michigan.

Sales Indicated By Sales Tax Collections During March, 1982 By County(000's)

Source: State Tax Commission

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Adams	1,574	36,555	**Lowndes**	1,658	46,279
Alcorn	685	17,979			
Amite	122	2,878	**Madison**	746	24,004
Attala	334	9,060	**Marion**	749	17,779
			Marshall	331	7,459
Benton	36	801	**Monroe**	707	18,704
Bolivar	759	18,903	**Montgomery**	194	4,445
Calhoun	189	4,455	**Neshoba**	357	8,829
Carroll	246	5,187	**Newton**	263	6,497
Chickasaw	278	6,980	**Noxubee**	130	3,444
Choctaw	84	2,061			
Claiborne	387	22,323	**Oktibbeha**	673	14,672
Clarke	202	5,055			
Clay	322	9,307	**Panola**	452	11,539
Coahoma	753	19,093	**Pearl River**	618	14,585
Copiah	423	10,580	**Perry**	137	4,335
Covington	423	9,519	**Pike**	1,016	23,163
			Pontotoc	217	5,476
DeSoto	627	15,950	**Prentiss**	238	4,940
Forrest	2,156	58,345	**Quitman**	126	2,931
Franklin	78	2,047			
			Rankin	1,829	51,750
George	138	2,092			
Greene	66	1,423	**Scott**	430	11,058
Grenada	916	22,027	**Sharkey**	111	2,493
			Simpson	408	10,210
Hancock	596	16,346	**Smith**	123	3,120
Harrison	3,768	95,120	**Stone**	181	4,500
Hinds	8,690	259,126	**Sunflower**	516	25,621
Holmes	288	6,749			
Humphreys	198	4,830	**Tallahatchie**	180	4,451
			Tate	289	7,240
Issaquena	73	184	**Tippah**	337	12,149
Itawamba	254	6,971	**Tishomingo**	337	9,755
			Tunica	116	2,694
Jackson	2,622	66,836			
Jasper	275	7,091	**Union**	309	8,208
Jefferson	70	1,569			
Jeff Davis	210	5,351	**Walthall**	188	5,016
Jones	2,846	66,487	**Warren**	1,041	25,176
			Washington	1,528	38,441
Kemper	80	1,822	**Wayne**	440	9,905
			Webster	117	2,801
Lafayette	519	11,891	**Wilkinson**	157	4,186
Lamar	289	7,526	**Winston**	363	10,029
Lauderdale	2,156	57,449			
Lawrence	156	4,049	**Yalobusha**	174	4,168
Leake	259	6,310	**Yazoo**	498	18,734
Lee	1,986	65,557			
Leflore	943	25,128			
Lincoln	756	17,334	**State Total**	60,807	1,672,782

NEW AND EXPANDED INDUSTRY

Town Firm Product	No. of Employees
NEW	
Amory **Penthouse Amory, Ltd.** Furniture	200
Jackson **State Pride Processors** Poultry Processing	150
Rosedale **Wilson Grain Bins** Grain Processing	5
Raleigh **A & B Enterprises of Meridian** Starter motors for Delco Remy	100
EXPANDED	
Jackson **Sewell Plastics** Plastic Containers	25
Hazlehurst **Royal Maid, Inc.** Plastic Flatware, Mops, Ladders	35
Sardis **Mississippi Mills** Garment (Thread)	50
Vicksburg **Gould, Inc.** Custom Molded Plastic Products	25

INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS

[Seasonally Adjusted]
1969=100

Indicator	February 1982	January 1982	February 1981
Retail Sales	180.2	162.6	176.0
Electric Sales	196.6	188.3	198.3
Telephones in Service	232.1	231.7	228.2
Gasoline Gallonage	148.3	100.5	147.6
Loans of Savings & Loan Institutions	59.5	75.1	122.9

STATE ECONOMIC INDICATORS

Indicator	March 1982[1]	February 1982[2]	March 1981[2]	Per Cent Change One Month Ago[3]	Per Cent Change One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	970,700	953,300	957,500	1.8	1.4
Non-Ag Employment	809,400	808,600	817,200	0.1	−1.0
Mining	12,800	12,900	12,000	− 0.8	6.7
Contract Construction	40,600	40,200	40,500	1.0	0.3
Manufacturing	211,900	212,400	217,900	− 0.2	−2.8
Transportation and Public Utilities	40,300	40,300	39,900	0.0	1.0
Wholesale and Retail Trade	161,300	160,700	160,100	0.4	0.8
Finance, Insurance and Real Estate	32,900	32,900	32,600	0.0	0.9
Service	121,800	121,200	121,100	0.5	0.6
Government	187,800	187,900	193,100	− 0.1	−2.7
Unemployment Rate (Per Cent Labor Force)	9.6	10.2	8.7	—	—
Average Weekly Earnings in Manufacturing (Dollars)	247.29	247.16	234.82	0.1	5.3
Average Hourly Earnings in Manufacturing (Dollars)	6.39	6.37	5.96	0.3	7.2
Average Weekly Hours in Manufacturing	38.7	38.8	39.4	− 0.3	−1.8
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,647	2,927	2,836	− 9.6	−6.7
Gasoline Delivered to Dealers (gals.)[6]	105,173	79,308	103,267	32.6	1.9
Dairy Production					
Milk (lbs.)[7]	78,000	67,000	76,000	16.4	2.6
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[8]	9,700	10,231	18,600	− 5.2	−47.9
Construction Loans	1,600	600	2,100	166.7	−23.8
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[9]	1,549,183	1,642,364	1,562,998	− 5.7	− 0.9
Telephones in Service (Number)[10]	1,539,199	1,536,845	1,513,872	0.2	1.7
RETAIL SALES ($000's)[11]	1,320,524	1,134,558	1,212,905	16.4	8.9

Indicator	December 1981	November 1981	December 1980	Per Cent Change One Month Ago	Per Cent Change One Year Ago
AGRICULTURE ($000's)[12]					
Total Cash Receipts from Farm Marketings	261,382	419,520	280,335	−37.7	−6.8
Cash Receipts from Marketing Livestock	67,681	68,168	72,896	0.7	−7.2
Cash Receipts from Marketing Crops	193,702	351,352	207,439	44.9	−6.6

[1] Preliminary

[2] Revised

[3] Percent change calculated with revised figures; not comparable with previously published data.

[4] Mississippi Employment Security Commission

[5] State Oil and Gas Board for November

[6] Mississippi Motor Vehicle Comptroller

[7] Mississippi Crop and Livestock Reporting Service

[8] Federal Home Loan Bank of Little Rock

[9] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority

[10] South Central Bell Telephone Company

[11] Mississippi Tax Commission

[12] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month	Per Cent Change		Current Month	Per Cent Change		Current Month	Per Cent Change	
		Month Ago	Year Ago		Month Ago	Year Ago		Month Ago	Year Ago
Aberdeen	8,378	0.1	1.0	44,884	12.6	5.1	——	17,700	85,063
Baldwyn	4,793	0.3	1.5	16,929	4.2	0.5	——	——	——
Batesville	9,367	0.3	3.8	80,141	106.5	69.8	74,960	40,615	193,000
Bay Springs	——	——	——	15,153	−21.6	−29.2	——	——	——
Bay St. Louis	14,447	0.7	5.4	40,096	58.9	28.9	770,135	252,650	282,230
Belmont	2,410	0.8	3.6	8,161	5.5	−13.6	——	——	——
Belzoni	5,163	0.2	3.3	23,064	6.1	3.3	28,600	31,000	153,440
Biloxi	46,733	−0.2	1.5	248,078	39.2	13.0	1,180,318	1,598,455	572,317
Brandon	11,497	0.2	−4.3	41,887	40.6	67.2	112,150	14,100	271,500
Brookhaven	16,006	−0.3	−0.4	112,614	28.7	12.3	108,325	253,000	408,800
Brooksville	1,334	1.4	0.9	1,973	− 7.9	−37.5	——	——	——
Canton	11,174	0.6	2.3	54,723	23.1	− 8.5	59,984	46,695	41,935
Carthage	7,475	0.2	0.1	34,923	− 6.8	−14.6	——	——	——
Charleston	4,231	−2.7	0.5	14,338	11.8	− 8.1	——	——	——
Clarksdale	20,616	0.1	−2.2	118,773	24.6	8.0	103,000	143,956	156,900
Cleveland	13,986	0.1	1.2	85,554	38.0	− 1.4	——	——	——
Collins	4,791	0.4	3.5	31,669	2.6	− 8.6	——	——	——
Columbia	16,494	0.6	3.1	83,074	5.4	13.4	——	——	——
Columbus	34,362	0.4	1.0	211,441	22.0	13.2	——	134,430	1,320,972
Corinth	21,094	0.4	−0.2	106,207	13.2	19.4	76,600	120,580	16,500
Crystal Springs	6,053	0.5	0.9	20,737	18.9	− 0.5	17,000	2,000	6,000
Drew	2,959	0.5	7.9	8,722	15.5	−12.1	——	1,000	2,000
Edwards	1,742	1.1	1.7	4,213	72.0	31.3	8,000	20,000	30,000
Ellisville	4,057	−0.9	1.4	14,916	18.8	7.2	——	——	——
Eupora	4,526	0.7	2.1	13,830	− 0.3	0.9	——	——	——
Fayette	3,430	0.6	1.4	8,709	5.5	12.0	——	——	——
Forest	5,127	−0.7	−0.4	37,891	1.3	−15.3	1,248,500	12,500	——
Greenville	37,396	0.1	0.0	237,155	20.1	− 1.5	——	——	——
Greenwood	23,953	−0.1	−1.1	140,445	44.1	6.2	409,700	212,500	2,009,700
Grenada	14,497	0.1	0.6	85,842	35.5	6.7	218,000	99,000	223,000
Gulfport	64,008	0.3	2.2	252,246	23.1	7.8	330,708	794,964	394,595
Hattiesburg	61,670	0.0	1.8	319,591	16.5	5.6	1,091,139	890,276	567,640
Hernando	7,518	0.3	3.2	23,203	22.0	23.9	71,300	522,598	26,100
Hollandale	3,424	0.6	1.8	8,129	− 6.7	−29.0	32,435	13,400	48,065
Holly Springs	7,735	−0.6	1.8	38,596	21.9	16.8	231,800	18,900	95,000
Houston	5,763	0.5	1.7	26,124	16.4	14.4	17,800	4,500	62,000
Indianola	7,953	0.4	0.3	61,956	17.9	12.7	——	——	——
Iuka	5,804	0.2	0.4	25,258	− 4.9	− 1.9	——	——	——
Jackson	232,789	0.0	2.0	1,411,326	26.2	5.0	1,980,497	2,853,486	4,329,246
Kosciusko	9,466	0.0	−0.5	49,979	9.4	8.1	51,100	22,700	166,200
Laurel	36,339	0.0	3.2	424,289	62.6	30.0	1,767,572	2,691,362	1,349,408
Leland	5,336	0.1	0.5	18,699	40.5	10.0	38,700	19,500	75,213
Lexington	4,945	0.4	1.6	18,204	5.6	11.1	——	——	——
Louisville	10,753	−0.2	0.5	43,000	7.6	− 2.3	43,500	114,658	162,527
Lucedale	8,615	0.0	1.7	31,036	− 5.5	3.0	63,000	29,600	888,000
Lumberton	2,987	−0.1	1.2	9,668	74.1	19.6	——	——	——
Macon	3,833	0.4	2.5	13,685	7.1	11.2	——	——	——
Magee	5,552	0.5	3.6	42,944	31.2	25.3	——	——	——
Magnolia	4,463	0.7	3.4	6,801	− 6.5	−19.7	7,200	4,300	11,300
Marks	5,432	2.1	−1.6	13,470	64.3	1.7	——	——	——
McComb	20,494	0.2	2.3	119,895	21.0	− 0.4	1,137,454	205,187	62,535
Meadville	——	——	——	4,614	23.3	18.3	——	——	——
Mendenhall	6,789	0.3	2.8	16,114	5.1	4.2	——	30,900	65,500
Meridian	47,866	0.0	−1.1	337,984	42.8	8.9	1,274,046	207,965	805,856
Monticello	5,115	0.5	3.3	15,691	8.6	− 1.3	33,000	——	35,000
Morton	3,648	0.6	2.4	18,125	19.8	10.4	——	——	——
Moss Point	16,886	0.8	3.4	58,811	81.1	28.5	107,250	511,970	149,370
Natchez	31,117	0.2	3.0	225,780	19.5	12.7	373,785	975,270	223,520
New Albany	11,580	0.3	1.6	49,353	5.8	8.4	51,337	39,000	225,000
Newton	4,240	0.6	2.5	19,274	− 9.9	− 0.5	59,196	94,166	37,584
Ocean Springs	16,202	0.2	0.8	75,415	46.6	29.4	320,873	——	398,462
Okolona	3,478	0.3	0.4	15,303	39.7	0.2	1,000	7,000	35,100
Oxford	21,764	−0.2	−0.2	83,880	19.3	3.7	81,925	63,350	28,625
Pascagoula	37,614	0.1	5.4	192,549	14.1	6.4	438,949	613,371	397,720
Pass Christian	5,879	0.2	4.2	12,354	15.2	20.6	247,945	227,070	107,755
Philadelphia	12,006	0.6	2.3	51,740	24.3	−21.9	——	——	——

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month	Per Cent Change Month Ago	Per Cent Change Year Ago
Picayune	16,456	0.4	3.8	83,700	28.8	29.1	431,884	126,800	155,650
Pontotoc	9,593	0.3	0.6	33,750	− 0.7	9.5	——	——	——
Poplarville	4,334	0.5	3.8	14,776	17.9	16.0	——	26,000	25,000
Port Gibson	6,607	1.4	12.3	15,128	2.4	−15.3	——	——	——
Prentiss	4,633	−0.1	1.7	20,738	29.8	27.3	7,000	25,600	11,000
Quitman	5,075	0.2	2.1	25,169	34.2	21.8	——	——	——
Raymond	3,350	0.7	4.3	3,850	− 4.4	−12.7	——	——	——
Richton	1,962	−0.2	−2.0	8,532	8.2	− 1.3	——	——	3,500
Rosedale	1,576	0.2	−1.6	7,170	26.9	15.9	——	——	——
Ruleville	1,536	0.6	2.5	6,925	9.6	−24.5	——	——	——
Sardis	3,203	−2.4	−9.3	12,866	− 2.2	−18.4	2,000	30,000	2,000
Senatobia	7,027	0.3	2.2	41,173	10.7	17.0	5,685	13,150	52,500
Shelby	1,627	0.3	−1.5	7,706	39.0	− 3.8	——	——	——
Starkville	25,630	−0.1	1.0	99,603	14.8	1.4	118,500	32,500	489,165
Summit	1,721	0.8	5.1	10,745	65.3	35.8	——	——	——
Taylorsville	1,827	−0.2	2.4	10,053	7.4	− 6.0	——	——	——
Tchula	1,988	0.7	−0.3	3,447	11.6	−12.9	——	——	——
Tunica	4,268	−0.2	−0.5	13,036	24.0	− 7.9	——	——	——
Tupelo	38,247	0.1	0.9	298,093	25.7	10.0	916,650	409,350	3,155,415
Union	2,897	0.3	3.6	13,888	47.9	28.5	——	——	——
Utica	3,160	1.0	2.8	7,094	− 4.1	7.1	——	——	——
Vicksburg	39,656	0.0	0.6	155,335	1.3	0.7	332,714	687,967	132,025
Walnut Grove	1,070	0.2	1.8	1,468	− 5.1	10.0	——	——	——
Water Valley	4,252	0.2	3.6	18,392	88.0	− 0.5	——	86,170	175,075
Waynesboro	8,016	1.8	2.7	54,117	4.6	− 6.9	100,000	16,585	175,400
West Point	12,656	−0.1	1.5	51,313	14.4	1.0	——	4,000	434,800
Wiggins	6,384	0.2	0.5	21,219	17.1	−34.5	125,600	——	30,000
Winona	5,001	−0.4	−0.8	27,884	9.8	16.0	167,750	——	34,250
Yazoo City	12,658	−0.1	0.8	60,947	13.2	− 3.6	——	——	——

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON **[Hinds and Rankin Counties]**	March 1982[1]	February 1982	March 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	162,700	161,100	157,600	1.0	3.2
Unemployed Persons	10,500	10,500	9,400	0.0	11.7
Per Cent of Labor Force	6.5	6.5	6.0	——	——
Employed Persons	152,200	150,600	148,200	1.1	2.7
Non-Ag Wage & Salaries	131,500	130,800	128,700	0.5	2.2
Manufacturing	19,000	18,500	17,700	2.7	7.3
TELEPHONES IN SERVICE	252,538	252,238	248,165	0.1	1.8
CITY SALES TAX COLLECTIONS	1,468,370	1,162,215	1,383,972	26.3	6.1

BILOXI-GULFPORT **[Hancock, Harrison and Stone Counties]**	March 1982[1]	February 1982	March 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	68,200	67,690	65,460	0.8	4.2
Unemployed Persons	4,840	4,790	4,070	1.0	18.9
Per Cent of Labor Force	7.1	7.1	6.2	——	——
Employed Persons	63,360	62,900	61,390	0.7	3.2
Non-Ag Wage & Salaries	53,880	53,750	52,550	0.2	2.5
Manufacturing	9,030	8,820	8,370	2.4	7.9
TELEPHONES IN SERVICE	116,620	116,469	114,324	0.1	1.7
CITY SALES TAX COLLECTIONS	512,678	393,927	463,754	30.2	10.6

[1] Preliminary

Annual Wages of Workers Covered by Mississippi Employment Security Law

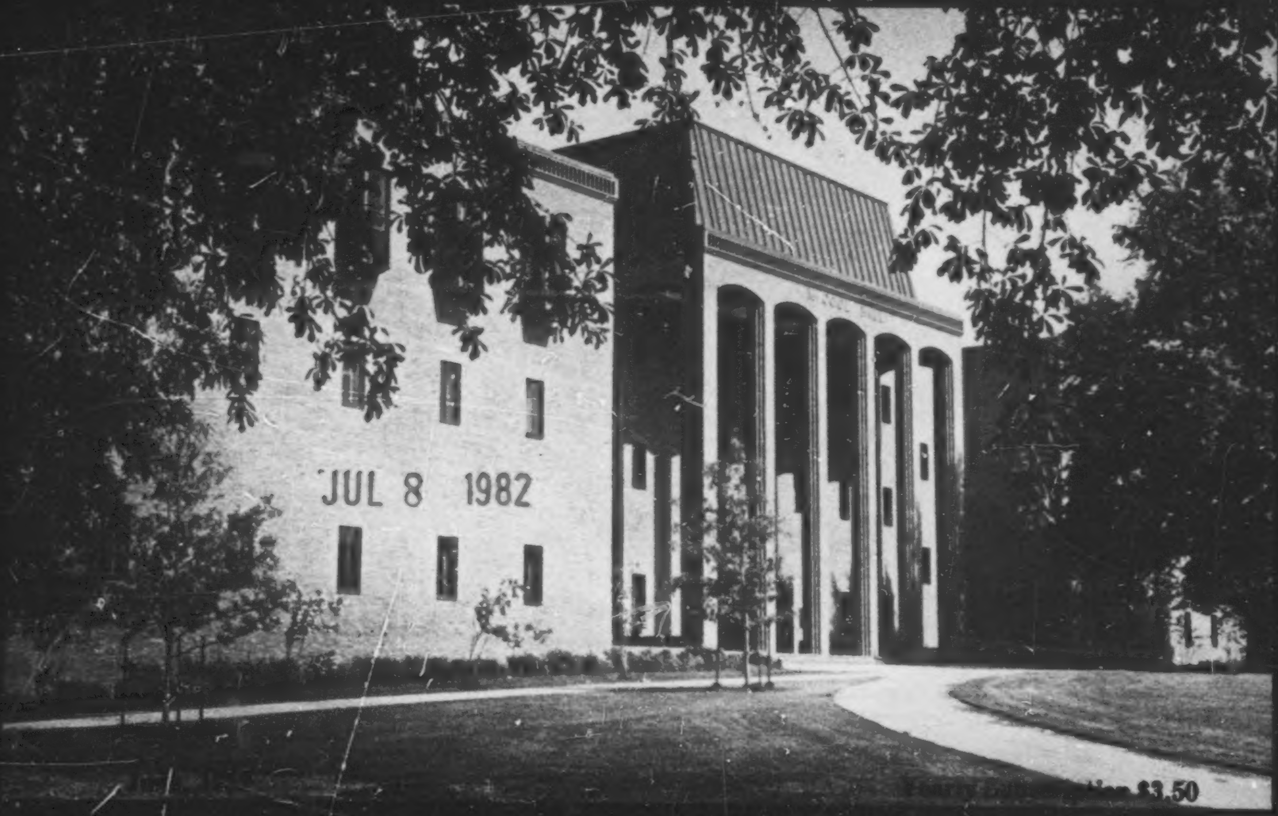
Source: Mississippi Employment Security Commission. Computations made by Division of Business Research, College of Business and Industry, Mississippi State University.

County	1979	% of State	% of Change	1980	% of State	% of Change
Adams	178,220	2.24	14.15	196,916	2.29	10.49
Alcorn	132,544	1.66	8.47	135,834	1.58	2.48
Amite	17,912	0.22	18.25	19,011	0.22	6.14
Attala	41,017	0.51	4.93	41,240	0.48	0.54
Benton	5,877	0.07	5.85	6,604	0.08	12.37
Bolivar	105,022	1.32	6.48	111,751	1.30	6.41
Calhoun	30,327	0.38	9.31	32,549	0.38	7.33
Carroll	6,601	0.08	17.83	7,660	0.09	16.04
Chickasaw	57,837	0.73	11.34	59,606	0.69	3.06
Choctaw	14,556	0.18	11.47	17,341	0.20	19.13
Claiborne	122,532	1.54	44.24	110,503	1.28	— 9.82
Clarke	41,974	0.53	12.11	47,247	0.55	12.56
Clay	76,626	0.96	13.58	84,277	0.98	9.98
Coahoma	93,513	1.17	13.10	99,796	1.16	6.72
Copiah	51,692	0.65	17.34	56,254	0.65	8.83
Covington	28,535	0.36	14.98	31,553	0.37	10.58
DeSoto	105,895	1.33	16.16	121,956	1.42	15.17
Forrest	263,535	3.31	11.09	290,201	3.37	10.12
Franklin	11,172	0.14	18.40	12,517	0.15	12.04
George	17,996	0.23	13.99	21,187	0.25	17.73
Greene	9,011	0.11	5.37	9,436	0.11	4.72
Grenada	82,447	1.02	10.17	83,127	0.97	.82
Hancock	54,800	0.69	12.99	65,448	0.76	19.43
Harrison	380,139	4.77	13.16	436,919	5.08	14.94
Hinds	1,354,639	16.99	14.49	1,483,456	17.24	9.51
Holmes	32,687	0.41	14.46	36,251	0.42	10.90
Humphreys	20,948	0.26	14.90	23,932	0.28	14.24
Issaquena	1,708	0.02	5.69	2,130	0.02	24.71
Itawamba	40,402	0.51	13.68	42,588	0.49	5.41
Jackson	575,49[illegible]	7.22	0.70	564,909	6.57	— 1.84
Jasper	29,487	0.37	16.76	32,991	0.38	11.88
Jefferson	9,859	0.12	0.19	10,769	0.13	9.23
Jeff Davis	16,579	0.21	17.06	17,888	0.21	7.90
Jones	220,927	2.77	12.41	247,222	2.87	11.90
Kemper	10,233	0.13	7.23	11,449	0.13	11.88
Lafayette	83,413	1.05	9.71	91,166	0.95	9.29
Lamar	31,132	0.39	9.62	34,392	0.40	10.47
Lauderdale	271,412	3.40	13.74	290,391	3.37	6.99
Lawrence	30,991	0.39	13.48	35,296	0.41	13.89
Leake	28,203	0.35	14.23	30,908	0.36	9.59
Lee	302,978	3.30	12.85	314,910	3.66	3.94
Leflore	124,205	1.56	13.08	130,384	1.52	4.97
Lincoln	79,077	0.99	15.99	82,918	0.96	4.86
Lowndes	200,444	2.51	10.95	217,900	2.53	8.71
Madison	72,620	0.91	13.69	79,893	0.93	10.02
Marion	59,953	0.75	13.72	67,447	0.78	12.50
Marshall	41,872	0.53	13.20	46,325	0.54	10.63
Monroe	95,897	1.20	6.68	107,007	1.24	11.59
Montgomery	20,831	0.26	4.78	22,277	0.26	6.94
Neshoba	58,309	0.73	13.32	61,204	0.71	4.96
Newton	41,111	0.52	8.37	43,497	0.51	5.80
Noxubee	18,610	0.23	9.58	19,553	0.23	5.07
Oktibbeha	100,163	1.26	11.12	111,577	1.30	11.40
Panola	59,813	0.75	11.86	62,650	0.73	4.74
Pearl River	51,171	0.64	15.45	55,965	0.65	9.37
Perry	17,146	0.22	16.11	17,957	0.21	4.73
Pike	92,878	1.16	14.55	97,336	1.13	4.80
Pontotoc	45,563	0.57	7.39	46,994	0.55	3.14
Prentiss	51,160	0.64	11.65	52,280	0.61	2.19
Quitman	18,215	0.23	8.04	20,885	0.24	14.66
Rankin	189,899	2.38	19.96	213,430	2.48	12.39
Scott	62,797	0.79	15.92	66,747	0.78	6.29
Sharkey	16,787	0.21	9.65	18,969	0.22	13.00
Simpson	52,908	0.66	19.33	52,371	0.41	—0.83
Smith	31,227	0.39	7.72	33,020	0.38	5.74
Stone	34,507	0.43	15.96	28,907	0.34	—16.23
Sunflower	78,428	0.98	13.80	84,926	0.99	8.29
Tallahatchie	19,911	0.25	8.87	22,394	0.26	12.47
Tate	40,530	0.51	22.13	44,236	0.51	9.14
Tippah	42,647	0.53	17.94	49,561	0.58	16.21
Tishomingo	48,040	0.60	22.00	63,113	0.73	31.38
Tunica	15,276	0.19	12.57	17,095	0.20	11.91
Union	56,498	0.71	8.63	65,128	0.76	15.27
Walthall	18,231	0.23	11.70	20,169	0.23	10.63
Warren	162,998	2.04	7.56	181,445	2.11	11.32
Washington	238,815	3.00	14.26	260,563	3.03	9.11
Wayne	38,360	0.48	17.45	42,095	0.49	9.74
Webster	21,652	0.27	15.29	22,160	0.26	2.35
Wilkinson	18,189	0.23	16.57	20,642	0.24	13.49
Winston	48,484	0.61	10.31	48,472	0.56	—0.02
Yalobusha	28,656	0.36	18.56	36,947	0.43	28.93
Yazoo	62,321	0.78	18.06	70,051	0.81	12.40
Other	405,669	5.09	16.08	428,354	4.98	5.59
Sub-Total	7,972,636		12.63	8,604,423		7.92

BEST AVAILABLE COPY

/u 3255-2

MISSISSIPPI BUSINESS REVIEW



JUL 8 1982

[illegible] $3.50

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Return Postage Guaranteed

Second Class Postage Paid at
Mississippi State, Mississippi 39762

BEST AVAILABLE COPY

Lawrence K. Roos

Dr. Scott Allen Freeman

Mr. Lawrence K. Roos is President of the Federal Reserve Bank of St. Louis. He has been a member of the Missouri House of Representatives and Chief Executive of St. Louis County, Missouri. He has also been in commercial banking. He received Honorary Doctor of Laws degrees from the University of Missouri and Westminster College

Dr. Freeman is an Assistant Professor of Finance at Virginia Commonwealth University, Richmond, Virginia. He received his D.B.A. in Finance from Kent State University, his M.B.A. from Wright State University and his B.A. from Hiram College.

TABLE OF CONTENTS

Future Choices for Bankers 3
New and Expanded Industry 6
Indexes of Selected Mississippi Economic Indicators 6
Goodbye and Hello 6
How Useful Is Published Investment Advice? 7
Meet the Faculty 10
Meet the Faculty 11
Tourist Brief 12
Gross National Product 14
Tourist Brief 15
Sales Indicated By Sales Tax Collections During April, 1982 By County (000's) 15
Total Per Capita Personal Income - United States and Selected SMSA's Selected Years 1969-1980 16
State Economic Indicators 17
Business Activity by City 18
SMSA 19
Gross Welfare Expenditures for Aid to Dependent Children Payments by County, July 1, 1980 - June 30, 1981 20

VOLUME XLIII JUNE, 1982 NUMBER 12

James D. McComas, Ph.D.
President, Mississippi State University
Gaines M. Rogers, Ph.D.
Dean, College of Business and Industry
Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing
Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics
Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics
Louis M. Capella, D.B.A.
Editorial Advisor
Orris L. Odom, II, Ph.D.
Editorial Advisor
Gary A. Williams, D.B.A.
Editorial Advisor
Donna M. Reddish
Assistant Editor
Dale Adams
Secretary
Diane Dendy
Secretary

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

Future Choices For Bankers

by
Lawrence K. Roos
President
Federal Reserve Bank of St. Louis

Editor's Note:

The following address by Mr. Roos was delivered before the Ninety-Second Annual Convention of the Missouri Bankers Association in St. Louis on May 14, 1982. While it was made primarily to Missouri Bankers, the subjects discussed appear equally appropriate for bankers elsewhere. Additionally, the northern half of Mississippi lies within the District served by the Federal Reserve Bank of St. Louis. It is with pleasure that we present it here, by permission, for your thoughtful consideration.

I am both pleased and honored to have been invited to address this, the 92nd Annual Meeting of the Missouri Bankers Association. As a former commercial banker and a past member of this association, I am well aware that these annual conventions serve two important purposes: they serve as forums for discussions of the vital current issues facing bankers as well as offering an opportunity for many of you to run up the entertainment overhead of your correspondents.

I must confess that, in choosing my subject, I was sorely tempted to use this platform to promote the wide range of superb services that the Federal Reserve Bank of St. Louis can offer you. Now that we're charging for our services, we can ill-afford to overlook any opportunity we might have to advertise our low prices and incomparable products. But, my better judgment prevailed and, instead, I will address a subject that, in my opinion, encompasses the most important issue facing banking today. It is a subject that has produced major divisions among bankers and has provoked serious antagonism between the banking industry and a wide variety of non-bank financial institutions. As you might have guessed by now, I want to talk to you about banking deregulation.

Now, let me say up-front that I am fully aware that banking deregulation may not be the favorite subject of all of you; indeed, some of you might consider it downright distasteful. This was brought home to me, somewhat forcefully, several years ago when I spoke to the Kentucky Bankers Association and made what I considered to be a rather moderate proposal, namely, that Regulation Q be eliminated. Judging from the reaction I received, I feel fortunate not to have been tarred and feathered and run out of town on a rail. I learned from that experience that some bankers view the prospect of deregulation in the same way that the Book of Revelation describes Armageddon—a catastrophe that could destroy their universe.

In my opinion, this sort of reaction toward the prospect of banking deregulation is not only mistaken, it leads to a state of mind that could ultimately spell the downfall of the commercial banking industry. For, banking deregulation does not represent the end in the banking world as we know it; it represents, instead, a necessary and challenging beginning. Indeed, it offers the best, perhaps the only, long run prospect for profitability and growth. Let me tell you why I believe this to be so.

Both you and I share a common Missouri tradition—we like to view things as they really are, even if the view is not what we'd like it to be. In looking at recent trends in banking, both nationally and here in Missouri, it is clear that your industry has suffered serious erosion in recent years. This is dramatically reflected in a few simple statistics:

First, banking's share of the lending market has been significantly reduced. Ten years ago, banks provided nearly one half of all loans made by financial institutions; today, banking's share is only one-third. Ten years ago, banks provided more than 40 percent of all loans made to non-financial borrowers; today, they provide only 25 percent.

Second, the public is becoming less interested in holding deposits at banks. In 1945, U.S. households held 35 percent of their financial assets as deposits at commercial banks; today, they hold only slightly more than 20 percent there. In the past ten years, the liabilities of non-bank financial institutions have grown at a rate double that of banks. Last year, liabilities of money market funds alone increased by more than did the net liabilities of all commercial banks.

Third, the rate of erosion of banks' aggregate share of the market is increasing. Perhaps the most striking example of this is the steady decline in the rate of growth of U.S. commercial banks' total deposits. Total bank deposits grew about 11 percent per year from 1970 to 1975; growth then slowed to less than 10 percent per year from 1975 to 1980. Last year, total deposits grew only slightly more than 6 percent and, if adjusted for inflation, actually declined.

Here at home in Missouri the relative trend has been equally disturbing. Over the past ten years, the total assets of Missouri banks have risen slightly more than 9 percent per year—somewhat below national trends. Over the same period, Missouri savings and loan associations experienced asset growth of nearly 14 percent per year, while Missouri credit union assets have grown by 16 percent per year since 1976.

The bottom line is simply that the banking industry has been slipping behind—further and further behind—other financial institutions.

What is responsible for this decline? It is due to the unintended, but nevertheless damaging, consequences of a host of regulations that, through the years, have been thrust on banks, sometimes at their own urging, sometimes at the urging of competitors. Banking must surely be the most thoroughly regulated industry in this nation. The National Banking Act of 1863 was the first of a long series of banking regulations. More familiar are regulatory products of this century: The Federal Reserve Act, the McFadden Act, Glass-Steagall, the Bank Holding Company Act, and on and on. Since the mid-sixties, Congress has saddled banking with at least one major new regulatory law each session. Just to remind you, these include: the Housing and Urban Development Act, Truth-in-Lending Act, Bank Protection Act, Currency and Foreign Transactions Reporting Act, Fair Credit Reporting Act, Interest Rate Control Act, Fair Credit Billing Act, Equal Credit Opportunity Act, Real Estate Settlement Procedures Act, Home Mortgage Disclosure Act, Consumer Leasing Act, Fair Debt Collection Practices Act, Community Reinvestment Act, International Banking Act, Financial Institutions Regulatory and Interest Rate Control Act and, most recently, the Depository Institution Deregulation Act and the Monetary Control Act of 1980.

I think that it is accurate to say that banking is the only industry in which regulations determine who can enter the business, where they can locate, what services they can offer, and what prices they can charge. Some of the most recent banking regulations even attempt to determine to whom you should lend and what signs you should hang in your bank lobby.

As is usually the case, most of these regulations were enacted with the best of intentions. They were intended to build walls: walls to protect banks from other banks, walls to protect bank customers from bank failures, walls to protect society from "credit crunches"; and walls to limit competition between various financial institutions. And, indeed, these regulations did, at first, build protective walls around banks and banking markets.

Today, however, the protection these walls formerly provided is gone, but not because banks have been successful in breaking out. Instead, other institutions have successfully broken in—into your markets, into your services, and into your profits. Non-bank financial institutions—your competitors—most of whom are not subject to the extensive regulations affecting banks, are offering bank customers a wide variety of services that previously only banks could offer. They are also offering services that banks are prevented, by law, from offering. Sears, Merrill Lynch, American Express, and, believe it or not, even the Parker Pen Company, are now in the banking business—and they are free to provide services that you, by regulation, cannot offer, in places that you, by regulation, cannot go, at prices that you, by regulation, cannot pay or charge.

The problem facing bankers is simply that, despite what you may have read or heard or believe, whether you wish it or not, deregulation of financial markets is **not** the wave of the **future**—it is the wave of the **present**. Deregulation by **innovation** is here now—for almost every financial market institution except banks. And don't be mislead; every new financial instrument, every new financial service is an innovation designed to circumvent some existing regulation. Innovation **is** deregulation. Such innovations have transformed regulations that once were viewed as suits of armor for bankers into straitjackets that now prevent them from responding to the challenges of new competition and new markets.

What choices do bankers have? Some bankers seem to believe that salvation can be found by choosing what I would call a "Maginot Line" strategy. They seem willing to tolerate their current regulatory burden in the hope that they can extend those regulations to other financial institutions. These bankers lean toward re-regulation in the belief that this would place all financial institutions on an equal footing. I don't believe that this is a viable option, for I am convinced that attempts at re-regulation will fail just as surely as the Maginot Line failed. The "blitzkrieg" of financial innovations and marketing ingenuity have already made the Maginot strategy obsolete. New regulations simply will not keep pace with financial innovations. Even if re-regulation were to become the accepted doctrine, it would take time to recognize a new innovation, time to reach a consensus of how to regulate it out of existence, and time to impose the regulation. In that time, those who remain regulated will always lose out to new competitors and to new methods of financial competition. And then some new innovation will pop up again.

Other bankers who have more confidence in themselves and, perhaps, a better sense of history, have confronted the problems facing the banking industry by calling for deregulation of all financial institutions. In my opinion, this is the only way that banks can be assured of being able to compete effectively. I believe this is the only strategy that will succeed. Only by permanently removing the regulatory walls that are now walling bankers **out** of the financial arenas can the banking industry remain a sizable and significant part of this nation's financial system.

There is, of course, a third possibility—that the banking industry will end up doing nothing about deregulation. Like the proverbial donkey that starved to death because it couldn't decide which bale of hay to eat, it is possible that bankers, if unable to reach a consensus on re-regulation or deregulation, might simply opt for piecemeal changes in current laws. In fact, this possibility is the one that some expect will actually occur. One recent study of financial markets specifically predicts that banking will continue to lose its market share, principally because bankers will be unable to agree among themselves about deregulation. The study concludes that the most probable prospect is that regulation will be only partially eased over time and this will occur only after the industry's plight reaches crisis proportions. This is the "let's hope it'll all go away" syndrome.

These then are the three choices you have. You can continue to argue among yourselves, community bank vs. city bank, small bank vs. large bank, in-state bank vs. out-of-state bank—and accomplish nothing. While the battle goes on over which bank owns the henhouse, the chickens and the eggs will probably have been stolen by your unregulated competitors. Or you can try to live with existing regulations and attempt to devise new ones to wall in your competitors. However, I predict that you will find that these new walls will extend **into** your markets and will merely encourage new innovations and new innovators. Or, you can push for deregulation of all financial institutions, which will enable you to compete head-on with your adversaries on a truly level playing field.

You may not like these choices, but they are the only ones you have. In my judgment, you don't have the option of avoiding deregulation. By and large, your choice is simply whether you will be the master of your fate by helping to guide the direction deregulation will take, or whether you will follow from the rear and let others dictate the direction and the distance. In other words, you can march up front with the generals or in the rear with the rank and file. Just remember that, at the end of the war, the generals usually get the medals while the rank and file are "mustered out."

One last comment. You may have the best strategy in the world, but if your timing is wrong you'll still lose out. Time is running out for the banking industry. Everyday, in the **American Banker**, the **Wall Street Journal**, and other financial journals, there are reports of new competition in financial markets, new options, new firms, new alternatives for the public to turn to for financial services. If you are still not convinced that a serious problem exists, just think about this. Last year, the amount that individuals in the U.S. saved out of their incomes was $107.3 billion; last year, money market mutual funds increased by $107.5 billion.

I realize that I have painted a pretty grim scenario. I have done so purposely, because I do not think that anything is ever accomplished by wishful thinking.

On the other hand, the history of commercial banking in the United States is impressive. Banks and bankers have been in the forefront of what is still the strongest economic system in the world. This impressive record could not have been achieved without foresight, the capacity to make decisions realistically and an ability to adapt to new conditions when they occur.

Nothing in this world is static. Circumstances constantly change. In one generation we have seen the transition from the horseless carriage to the automobile; we have witnessed the emergence of nuclear fission; we have observed repeated evidence of man's ability to survive and progress in spite of changing circumstances.

I have full confidence that commercial bankers have little to fear from the competition that lies ahead. You possess the resources, the marketing ability and the competitive capacity to prevail if you will only assess the situation with the same realism that characterizes the conduct of your daily business. Knowing you as I do, I have little doubt that you will respond to the challenge and continue to contribute mightily to the future growth and prosperity of this great nation.

NEW AND EXPANDED INDUSTRY

Town	Firm	Product	No. of Employees
NEW			
Mantee	**Mantee Furniture Company**	Living Room Furniture	16
Rosedale	**Jesco Lubricants**	Petroleum Lubricants	70
West Point	**Bella Maria Foods Corp.**	Ravioli	5
West Point	**Southern Ionics, Inc.**	Specialty Chemicals	10
EXPANDED			
Meridian	**Mitchell Distributing**	Beer	

INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS
[Seasonally Adjusted]
1969=100

Indicator	April 1982	March 1982	April 1981
Retail Sales	167.9	180.2	172.6
Electric Sales	202.7	196.6	249.4
Telephones in Service	232.4	232.1	229.2
Gasoline Gallonage	124.9	148.3	131.7
Loans of Savings & Loan Institutions	46.2	59.5	172.3

Goodbye. . . and Hello

With this issue the staff of the Division of Research bids "goodbye" to Donna M. Reddish, Assistant Editor of the MISSISSIPPI BUSINESS REVIEW, who during her tenure successfully handled all assignments related to the production and distribution of this monthly summary of business activity in Mississippi. Her assignments included the procurement and processing of economic data; maintaining contact with faculty of the College of Business, as well as with persons submitting articles from other institutions; serving as liaison between the Division of Research and the printer; pasting-up and proofing the magazine; and handling correspondence with subscribers. All of these she accomplished in a superlative manner. Mrs. Reddish moves with her husband, Marvin, and three children, Dee, Twila, and Carl, to Jonesboro, Georgia, where she will become a full-time housewife as Mr. Reddish assumes a teaching position with North Clayton County High School. These fine people have endeared themselves to the staff of the Division of Research, and each staff member joins me in wishing them Godspeed and continued success in their new position.

And "hello" to Janis Carole Bryant who joins us from the Peter Koch Lutken Chair of Insurance of the Department of Finance, Mississippi State University. Mrs. Bryant is a graduate of Belmont College with further study at Middle Tennessee State University and Mississippi State University. She is married to Dr. James A. Bryant who teaches in the Department of Business Statistics and Data Processing at Mississippi State, and they have two children, Amanda Carole and Jeffrey Colin. We welcome her to the Division of Research and look forward to working with her.

Guy T. Peden, Jr.
Director

How Useful Is Published Investment Advice?

by

Scott A. Freeman

For thousands of individuals who play the stock market, selecting stocks that will best meet their investment goals is a formidable task. Investors are confronted with a vast array of information sources, analytical techniques, and strategies from which to choose. Many seem to feel that the most convenient strategy is to subscribe to an advisory service and let the "experts" select stocks for them. Each year, untold amounts are spent on publications that provide a wide assortment of information on general market forecasts, industry surveys, and individual securities. It has been estimated that well over 1,000 services exist which claim to furnish their subscribers with advice which, if followed scrupulously, will yield benefits far superior to those the individual can make on his own. These services employ a variety of tools, ranging from the more conventional fundamental analysis to mystical "charting" techniques and beyond.

Two of the best known and most widely used services are **Value Line** and **Standard and Poor's Outlook**. Both primarily employ a brand of fundamental analysis in selecting stocks they recommend to their subscribers. The **Value Line** format consists of placing stocks in different categories with regard to their "timeliness." "Rank 1" consists of the most timely stocks, and so on. **Standard and Poor's** uses no such ranking; instead, it merely designates stocks as "recommended to buy." While all investment advisory services can neither be condemned nor congratulated on the basis of the performance of these two, this article presents evidence that both **Value Line** and **Standard and Poor's** do indeed provide valuable advice to their subscribers.

ADVICE IN AN EFFICIENT MARKET

Proponents of the Efficient Market Hypothesis, often confused with the more restrictive Random Walk, tend to dismiss the value of published investment advice. Such advice, they reason, is developed from "publicly available information" (e.g., financial statements, earnings reports, public announcements) and therefore fully reflected in the current price of the stock.[3] Future price behavior depends on the arrival of new information which arrives in random fashion and thus cannot be anticipated by the market. The Random Walk version of the EMH expresses that not only is future price behavior independent of information that is publicly available, but also that **expectations** of the future are unrelated to this information. In order for the Random Walk to be valid, one would have to assume no changes in perceived risk over time; consequently this version has not gained wide acceptance.

Under the general form of the EMH, no investment strategy based on information that is already available should consistently yield better results than could be obtained through randomly selecting stocks with the same level of risk as those recommended. The latter strategy is commonly referred to in academic circles as "naive buy and hold" and more generally, the "dartboard" method. Since this alternative is obviously available to any investor, it becomes the standard against which any other strategy is evaluated.

This standard is used because in the long run, the market in general tends to advance, pulling the majority of stocks up with it. During a period of advance, any portfolio, including a random one, is likely to appreciate. No investment strategy can be considered superior unless it outperforms buy-and-hold.

The EMH, naturally, has its detractors, notably those analysts employed by institutions and services which owe their existence to the notion that "undervalued" securities can be identified and purchased before the rest of the market discovers them. By far, though, the bulk of objective evidence does tend to support the EMH. Large institutional investors, such as mutual funds and pension funds, have reluctantly begun to recognize the validity of the EMH, principally because few of them have been able to consistently outperform the market average (which can easily be equalled by a portfolio selected through the dartboard method). Their recognition of EMH is best illustrated by their creation of "Index funds," which are an alternative offered to their clients.

Nevertheless, even the staunchest supporters of EMH are willing to concede that there can be exceptions. An analyst who receives and processes information before it becomes widely available might indeed have an edge and outperform the market. In addition, there are those who contend they possess superior analytical skills which enable them to recognize potential in certain stocks before the rest of the market. While most analysts would naturally claim to possess one or both of these advantages, it must be remembered that they compete against each other and, consequently, everybody can't be a winner.

EARLIER EVIDENCE

The few objective studies conducted to determine the value of published advice have shown that the purchase of recommended stocks tends to produce results superior to those obtained through a naive buy and hold strategy.[2,4,5,6] Typically, most of this superior performance occurs during the next four weeks. These observations have led most authors to conclude that, because a large number of investors follow these recommendations, the publication of advice actually produces rather than anticipates price increases. One notable study was conducted by Fisher Black[1] who demonstrated the success of **Value Line** in selecting long-term winners. His work, not surprisingly, is displayed in the literature which **Value Line** sends to its subscribers.

NEW EVIDENCE

The performance of stocks recommended by **Value Line** and **Standard and Poor** between November 8, 1975, and January, 1977, was studied to shed new light on their ability to pick winners. For this purpose, a random sample of 133 stocks was selected from stocks placed in "Rank 1" by **Value Line**, along with 151 stocks designated as "recommended to buy" in **Standard and Poor's Outlook**. Their returns, which included both cash dividends and price appreciation (adjusted to reflect stock dividends and splits), were computed over various intervals. Returns which could be earned during each interval through a naive buy and hold strategy were subtracted in order to measure superior performance. The resulting values are referred to as "adjusted rates of return."

Adjusted rates of return were calculated for 4 distinct time periods relative to the date of publication of the advice:

-4 to 0: the 4 weeks preceding publication,
0 to 1: the week following publication,
1 to 52: the 51 weeks following period (0 to 1),
0 to 52: the 52 weeks following publication.

These particular time periods were chosen to test a number of propositions which are discussed below. Tables I and II present the average adjusted rates of return for the sample of **Standard and Poor** and **Value Line** stocks, respectively. For time periods less than 1 year, returns were not annualized; to do so might imply such returns are available for extended periods of time. A student test was used to determine significance.

TABLE I

Average Adjusted Returns for 151 Stocks

Recommended by **Standard and Poor**

Period	Return	t
—4 to 0	5.4%	2.16*
0 to 1	1.5%	3.47**
1 to 52	10.0%	2.98**
0 to 52	11.6%	3.46**

TABLE II

Average Adjusted Returns for 133 Stocks

Recommended by **Value Line**

Period	Return	t
—4 to 0	12.4%	1.63
0 to 1	1.3%	1.90*
1 to 52	42.7%	2.66**
0 to 52	44.0%	2.67**

*indicates level of significance $p < .05$
** indicates level of significance $p < .005$

Performance Prior to Publication

It is frequently alleged that advisory services tend to recommend the purchase of stocks after they have already exhibited strong performance, essentially advising their subscribers to buy stocks which have reached their peaks. If this be the case, we would expect to see superior performance preceding publication. Examination of the results for the period (—4 to 0), reveals that both services do tend to recommend stocks which have already performed well, although it cannot be determined whether either service actually uses past performance as an indicator of future investment prospects. Further results indicate, though, that the majority of these stocks have yet to reach their peak.

Performance After Publication

Three different time periods following publication were analyzed in order to determine whether superior performance is due to a temporary surge in demand created by the advice or due to the ability of these services to identify superior potential. Should the former explanation he true, superior performance in Period (0 to 1) would be followed by a downward adjustment in Period (1 to 52) as the market moved back into equilibrium. The results show that, in both the **Standard and Poor** and **Value Line** samples, positive adjusted rates of return were achieved during the first week (1.5% and 1.3%, respectively). However, these gains were not temporary, inasmuch as they were followed by superior returns over the next 51 week (10.0% and 42.7%). From these results, it must be inferred that, on average, both services are able to identify potential winners. A subscriber who bought and held the **Standard and Poor** sample for 1 year would have realized a rate of return of 11.6% above that which he could expect from randomly selecting stocks of comparable risk. For the investor holding the **Value Line** sample, the adjusted rate of return was an impressive 44%.

IMPLICATIONS FOR THE INVESTOR

These results are not meant to serve as a blanket endorsement of all advisory services. The two studied here are among the most widely followed services and are known to perform intricate analysis. It appears from this study that such analysis is indeed effective. However, before the investor bases his entire strategy on the advice of these services, a few words of caution are in order.

First, it must be pointed out that the rates of return described are averages for large samples of recommended stocks; individual stocks differed greatly among themselves. Holding a single stock, even though recommended by either service, exposes the investor to considerable risk. Therefore, the subscriber who wants to avail himself to the benefits of these services is advised to purchase a portfolio of recommended stocks. The number of stocks need not be as large as the samples examined in this study. Twelve to sixteen stocks should be sufficient to approximate the mean return of larger samples.

Investors should also note that large 'positive returns are not guaranteed under all market conditions. The evidence presented here only shows that recommended stocks tend to outperform a naive buy and hold. During a downward trend in the market, any long position is likely to lose money, though a portfolio of recommended stocks is perhaps less likely to than others.

Finally, the competitiveness of the market may alter the value of published advice in the future. The market displays an uncanny ability to discover opportunities for making trading profits. Perhaps as more investors begin to follow the advice of these services, prices of stocks will quickly adjust upward upon recommendation, thus negating any advantage to subscribers. For this reason, a future study may well produce new results.

REFERENCES

1. Black, Fisher. "Yes, Virginia, There is Hope:Tests of the Value Line Ranking System." **Financial Analysts Journal**. September-October 1973:10, 12, 14.

2. Cheney, H. L. "How Good are Investment Advisory Services?" **Financial** Executive 37 (November, 1969):30-5.

3. Fama, Eugene. "Efficient Capital Markets:A Review of Theory and Empirical Works." **Journal of Finance**, 25 (May 1970):383-417.

4. Ferber, R. "Short-Run Effects of Stock Market Services on Stock Prices." **Journal of Finance**, 13 (March, 1958):80-5.

5. Ruff, R. T. "The Effect of Selection and Recommendation of a Stock of the Month." **Financial Analysts Journal**, March-April, 1963: 41-3.

6. Stoffels, J.D. "Stock Recommendations by Investment Advisory Services: Immediate Effects on Market Pricing." **Financial Analysts Journal**, March, 1966:77-86.

MEET THE FACULTY

William A. Simmons

School of Accountancy

William A. Simmons, Professor of Accounting, has taught at Mississippi State University longer than anyone presently on the faculty of the College of Business.

Mr. Simmons was raised in Kewanee, Mississippi, a community near Meridian. He attended Meridian Junior College, then transferred to Mississippi State where he received a BS and MS in Accounting. Except for a period in the Army, he has been either a student or faculty member of this institution since 1944.

Professor Simmons has, at one time or other, taught just about every course offered in the School of Accountancy. His areas of particular interest are financial accounting and income tax.

He has been active in various professional groups. He is a past director of the Mississippi Chapter Hospital Financial Management Association and the Northeast Mississippi Chapter of the National Association of Accountants. Particularly active in the Mississippi Society of Certified Public Accountants, he has served as President of this group.

Other professional activities include having served as President of the MSU Chapter of Phi Kappa Phi and Faculty Vice President of the Beta Alpha Psi Chapter.

Professor Simmons serves as a Director of First Federal Savings and Loan of Starkville and treasurer of the First United Methodist Church.

Bill and his wife, Evelyn, have two children and four lovely grand-daughters.

Bill has recently received the MSU Alumni Association's award as Outstanding Teacher for 1982.

MEET THE FACULTY

Dr. Danny R. Arnold

Department of Marketing

Dr. Danny R. Arnold is an Associate Professor of Marketing at Mississippi State University. He received his B.S. in Accounting, his M.B.A. in General Business, and his D.B.A. in Marketing from Louisiana Tech University.

Before entering the academic profession, he worked for Peat, Marwick, and Mitchel of Houston, Texas, for Anderson and Clayton, Inc., Houston, Texas, for the U. S. Army, and for Stubbs Pecanland in Monroe, Louisiana. After completing his masters degree he was a Teaching Assistant at Louisiana Tech University. He also taught at McNeese State University and Stephen F. Austin State University before coming to Mississippi State University in September, 1979.

Dr. Arnold has just completed a textbook entitled **Strategic Retail Management**, with co-authors Louis M. Capella and Garry D. Smith. He has also started another textbook in Business Policy. Dr. Arnold has had thirty-one articles published in a number of different publications. Some of which have been published in the **Proceedings**, **Small Business Institute Review**, **Journal of Insurance** and **Bank Marketing**.

He has been a SBI advisor for seventeen different businesses and has designed and implemented research projects for four different businesses.

Serving on school and university committees has also been part of Dr. Arnold's activities, the most recent being the School of Business Library Committee. Some of the following organizations are just a few of the organizations Dr. Arnold is a member of: Sigma Iota Epsilon - President, Delta Sigma Pi - President, Beta Gamma Sigma, American Marketing Association, Southeastern Marketing Association, Small Business Institute Directors' Association and Jaycees. Dr. Arnold was selected as an Outstanding Young Man in America for 1978.

Dr. Arnold's wife, Peggy, is a Mary Kay beauty consultant. They have two sons, Wade - age 12, and Daryl - age 8. His hobbies and interests are golf, coaching baseball, hunting and science fiction.

Tourist Briefs

Casey Jones Wreck Site

Vaughan, Mississippi

The little central Mississippi town of Vaughan Station was the birthplace of one of America's best known folk traditions: the legend of Casey Jones, famed railroad engineer. It was here, 3:52 a.m. on the foggy morning of April 30, 1900, that Jones ran his Illinois Central Train "No. 1" into the rear of a freight train, hurtling to his death and immortality.

John Luther Jones was born in southwestern Missouri on March 14, 1863, moving to Cayce, Kentucky, as a lad. It was from this town that he received his nickname when applying for an apprentice telegrapher's job with the Mobile and Ohio Railroad at Columbus, Kentucky. Casey's ambition, from the beginning of his railroad career at the age of 15, was to become an engineer. When he was eighteen, his dream began to come true. A yellow fever epidemic which struck down many of the crews of the neighboring Illinois Central Railroad provided Casey with the opportunity of mounting the cabin. Sensing that a shortage of engineers would result in rapid promotion for firemen, Casey applied for a job as fireman on the Illinois Central. On March 1, 1888, he was assigned a job firing a freight locomotive between Jackson, Tennessee, and Water Valley, Mississippi. Two years later, at the age of twenty-seven, he had passed his examinations and was promoted to engineer, running between Jackson, Tennessee, and Water Valley, Mississippi. Casey also worked out of Chicago, where he handled one of the express trains and other runs as the circumstances demanded.

The Illinois Central exhibit at the Columbian Exposition in Chicago in 1893, included the company's latest model, No. 638; and, when the exposition closed, Jones was assigned the new locomotive for the run to Water Valley. It was customary at the time for an engineer to be assigned to a particular locomotive upon which he could lavish personal attention. In a period of hell-for-leather railroading, Casey was reprimanded only nine times in his ten years as an engineer. Until the day of his death he was proud of his record, which did not include a serious injury to a passenger or a crew member. That Casey was a fast roller, there is no doubt. But the record does not show that he was careless. Because of the keen competition between the railroads. every effort was made to reduce schedules in order to keep the lucrative mail contracts. Every engineer had to be a bit of a daredevil, and every trip of that period would not be allowed by today's safety rules. "To get her there in the advertised" was the goal of every good engineer, and Casey was doing just that when he was killed.

Jones ran the freight between Jackson, Tennessee, and Water Valley, Mississippi, until January 1, 1900, when he was promoted to the fast passenger train between Canton, Mississippi, and Memphis, Tennessee. The engine was No. 382, a McQueen with six drive wheels, six feet high. Casey secured a custom-made six-flute whistle for the engine which produced a whip-poor-will sound, easily recognizable and associated with him.

The Illinois Central trains running south between Chicago and New Orleans were "No. 1" and "No. 3." The North-bound trains were "No. 2" and "No. 4." Casey had just arrived at Memphis with "No. 2," "The Chicago Fast Mail," exactly on time at 10 p.m. on April 29, 1900, when he learned that engineer Sam Tate of "No. 1," "The Cannonball Express," was too ill to make the run from Memphis to Canton. Casey had been scheduled to take "No. 1" south the next day after resting, but needing the extra money, he volunteered to make the return run that night if allowed to use his own engine, No. 382.

The "Cannonball Express" pulled out of the Memphis yard 90 minutes late at 12:50 a.m. on April 30, with Sim Webb at the shovel and Casey at the throttle. Fifty-five minutes were made up by the time Jones pulled into the Grenada station 102 miles from Memphis. In the 23 miles from Grenada and Winona, another 15 minutes were made up. "The Old Lady has her high-heeled slippers on tonight," Casey is said to have shouted at Sim as they left Winona. He was almost on time when they reached Durant, 30 miles south of Winona. He was only two minutes behind schedule as he approached Vaughan, 22 miles south of Durant and 14 miles north of Canton, where he would turn the train over to the relief engineer.

Incredibly "Cannonball No. 1" had made up 73 minutes of lost time in 174 miles, meaning that, at times, Casey was running in excess of 100 miles per hour and hardly below 65 miles per hour at any time. Twelve minutes more at the same speed and Casey would have "The Cannonball" in Canton on time. But as he swept around an "S" curve into Vaughan, the red light of a freight train caboose loomed up ahead in the foggy night.

According to Sim Webb, Casey shouted "Jump, Sim! Unload!" as he shut off the throttle and applied the air brakes, pulled the reverse lever, opened the sand dome wide, and sounded a blast on the "whip-poor-will." As the train slowed in a few yards from 75 miles per hour to approximately 50 miles per hour, Webb jumped. Casey stayed at the controls, failing to brake his train just short of collision. The crash was heard for miles. The locomotive splintered the caboose, plowed through a car of hay ahead, and into the next one, which was loaded with shelled corn. Tons of corn were scattered over the wreck. Engine No. 382 then left the track and turned on its side. The tender and all the cars remained on the track.

Casey Jones was the only person killed. Sim Webb was picked up where he jumped, unconscious and bruised but otherwise unhurt. Several crewmen and passengers were bruised and shaken, but Casey's heroic deed of staying at the controls was credited with preventing serious injury to them and others.

A subsequent investigation revealed the cause of the accident. Two trains, one southbound and one northbound, had been ordered to a siding at Vaughan, but their combined length was four cars longer than the 3,148 foot siding. To let a northbound passenger train pass, they had executed what is called a "saw-by." They moved north on the siding until the third train stopped alongside on the main track. Then they pulled back until the way was clear ahead. They repeated the manuever to let a local passenger train into a spur on the other side of the Vaughan station. They were preparing to do a third "saw-by" to let Casey through when a brake hose burst and froze the wheels of the freight, leaving four cars on the main track.

Regulations required that warning torpedoes be placed on the track "30 telegraph poles away," a fusee lighted, and a flagman stationed with a lantern to intercept the oncoming train. According to an official report of the accident, the flagman had done his job and the torpedoes had exploded, thus "Engineer Jones was solely responsible for the collision by reason of having disregarded the signals given by flagman John M. Newberry." For many years before his death in Memphis on July 13, 1957, Sim Webb told and recorded a different story, insisting: "We saw no flagman or fusee! We heard no torpedoes."

In any event, the fervor with which admirers of Casey rallied to his defense is what made the mishap different from 27 other rear-end collisions which occurred on U. S. railroads in that one month of April, 1900. One of Casey's admirers, Wallace Saunders, a Negro engine wiper from Canton, Mississippi, began to sing about the wreck:

> Casey Jones. He was all right. Stuck to his duty both day and night. Casey Jones. . .Fireman say. Casey your runnin' too fast. . .Out run yo' signal las station yo' passed. . .Casey Jones, he died at th' throttle wi' th' whistle in his hand!
>
> (**Congressional Record**—Appendix, November 14, 1967, p. A5591)

From a year that witnessed the accidental deaths of 2,550 railroad workers, why has this man been singled out in folklore and ballads? Perhaps it was because his time was the romantic era of the railroad, but it is more likely it was Wallace Saunders of the Canton roundhouse who really deserves the credit for Casey Jones' immortality. Saunders, who could neither read nor write, allowed his ballad to be copied by William Leighton, an Illinois Central engineer. According to Saunders, Leighton passed it along to his brothers, Bert and Frank Leighton, vaudeville performers, who used the song frequently in their act. The tune caught on in popularity and was copyrighted in 1909 with music composed by Eddie Newton and words by T. Lawrence Siebert, who changed the verses slightly. For this contribution to the ballad, Saunders is said to have only received a bottle of gin.

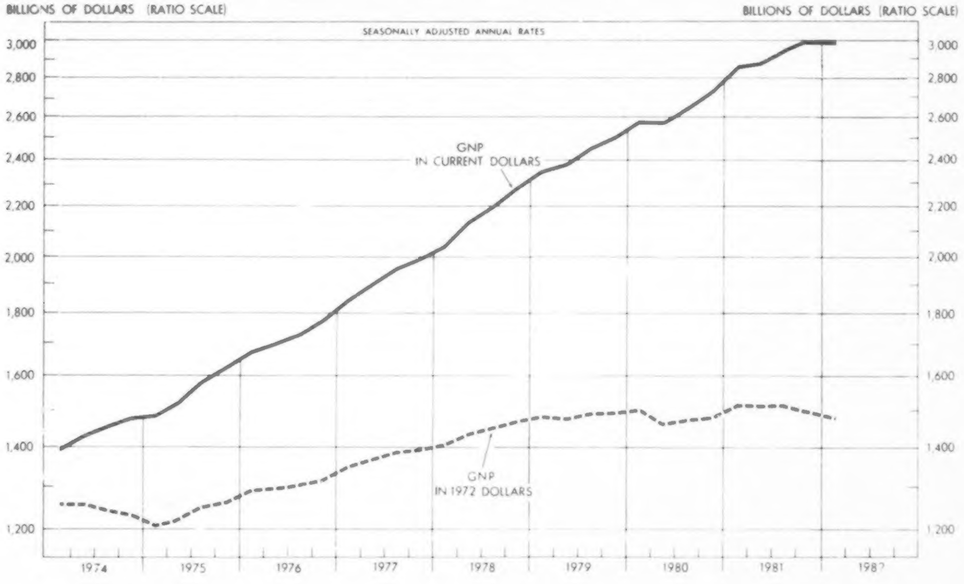
A postage stamp, official state historical markers, in Jackson, Tennessee, and Vaughan, Mississippi; and the Casey Jones Museum in Jackson, Tennessee, have subsequently commemorated the colorful Casey Jones, who has been immortalized in the folklore of American railroading. Plans are also being formulated by the Mississippi Park Commission and the Yazoo County Chamber of Commerce for the development of the site.

Source: **Mississippi Department of Archives and History,** Jackson, Mississippi.

TOTAL OUTPUT, INCOME, AND SPENDING

GROSS NATIONAL PRODUCT

According to revised estimates for the first quarter of 1982, gross national product fell $6.7 billion or 0.9 percent, both at annual rates. Real output (GNP adjusted for price changes) fell 4.3 percent from the fourth quarter level and the implicit price deflator rose at a 3.5 percent annual rate.



SOURCE: DEPARTMENT OF COMMERCE

COUNCIL OF ECONOMIC ADVISERS

[Billions of current dollars; quarterly data at seasonally adjusted annual rates]

Period	Gross national product	Personal consumption expenditures	Gross private domestic investment	Exports and imports of goods and services			Government purchases of goods and services					Final sales
				Net exports	Exports	Imports	Total	Federal			State and local	
								Total	National defense	Non-defense		
1971	1, 077. 6	672. 2	166. 4	4. 1	68. 8	64. 7	234. 9	96. 2	70. 2	26. 0	138. 7	1, 070. 0
1972	1, 185. 9	737. 1	195. 0	. 7	77. 5	76. 7	253. 1	101. 7	73. 1	28. 5	151. 4	1, 175. 7
1973	1, 326. 4	812. 0	229. 8	14. 2	109. 6	95. 4	270. 4	102. 0	72. 8	29. 1	168. 5	1, 307. 9
1974	1, 434. 2	888. 1	228. 7	13. 4	146. 2	132. 8	304. 1	111. 0	77. 0	33. 9	193. 1	1, 420. 1
1975	1, 549. 2	976. 4	206. 1	26. 8	154. 9	128. 1	339. 9	122. 7	83. 0	39. 7	217. 2	1, 556. 1
1976	1, 718. 0	1, 084. 3	257. 9	13. 8	170. 9	157. 1	362. 1	129. 2	86. 0	43. 2	232. 9	1, 706. 2
1977	1, 918. 0	1, 205. 5	322. 3	−4. 2	183. 3	187. 5	394. 5	143. 9	93. 3	50. 6	250. 6	1, 897. 0
1978	2, 156. 1	1, 348. 7	375. 3	−. 6	219. 8	220. 4	432. 6	153. 4	100. 0	53. 4	279. 2	2, 133. 9
1979	2, 413. 9	1, 510. 9	415. 8	13. 4	281. 3	267. 9	473. 8	167. 9	111. 2	56. 7	305. 9	2, 396. 4
1980	2, 626. 1	1, 672. 8	395. 3	23. 3	339. 8	316. 5	534. 7	198. 9	131. 7	67. 2	335. 8	2, 632. 0
1981	2, 925. 5	1, 857. 8	450. 5	26. 0	367. 3	341. 3	591. 2	230. 2	154. 3	75. 9	361. 0	2, 909. 4
1980: III	2, 637. 3	1, 682. 2	377. 1	44. 5	342. 4	297. 9	533. 5	194. 9	131. 4	63. 5	338. 6	2, 653. 4
IV	2, 730. 6	1, 751. 0	397. 7	23. 3	346. 1	322. 7	558. 6	212. 0	141. 6	70. 4	346. 6	2, 748. 0
1981: I	2, 853. 0	1, 810. 1	437. 1	29. 2	367. 4	338. 2	576. 5	221. 6	145. 2	76. 4	354. 9	2, 848. 5
II	2, 885. 8	1, 829. 1	458. 6	20. 8	368. 2	347. 5	577. 4	219. 5	148. 2	71. 3	357. 9	2, 862. 5
III	2, 965. 0	1, 883. 9	463. 0	29. 3	368. 0	338. 7	588. 9	226. 4	154. 1	72. 2	362. 5	2, 937. 6
IV	2, 998. 3	1, 908. 3	443. 3	24. 7	365. 6	341. 0	622. 0	253. 3	169. 7	83. 5	368. 7	2, 989. 0
1982: I p	2, 991. 6	1, 945. 1	391. 4	28. 6	356. 5	327. 9	626. 5	254. 0	170. 2	83. 9	372. 5	3, 030. 9

Source: Department of Commerce, Bureau of Economic Analysis.

Tourist Briefs

Jefferson Davis Riverboat

Vicksburg, Mississippi

"HELLO"

We would like to welcome you to Vicksburg and a cruise aboard the Jefferson Davis Sightseeing Riverboat for an hour and a half of fun on the Mississippi River—a ten mile trip—with relaxing music and passing some of the most interesting places, with a navigation of some of the greatest historical happenings ever.

Our season begins on April 15 and runs throughout September. We leave every afternoon at 2:30 from the Waterfront in downtown Vicksburg.

What could be more wonderful than a moonlight cruise? Well, we have those too! In June, July, and August on Thursday, Friday, and Saturday nights, we leave the dock at 8:00 o'clock repeating the same trip as in the afternoon. Viewing Vicksburg at night on the water, with lights reflecting in the water and a full moon overhead, a cool breeze blowing is a comfortable way to relax.

If the weather is not favorable, we have a covered deck and can seat eighty-seven people.

The rates vary from time to time. For that special event we have private charters throughout the year.

We have a snack bar aboard and a stereo tape player. For private parties, you may bring your own refreshments.

For more information call or write P. O. Box 664, Vicksburg, MS 39180; Phone (601)-636-6793, **OR** Rt. 1, Box 32, Yazoo City, MS 39194; Phone (601)-746-3845.

Looking forward to having you aboard the Jefferson Davis cruise boat.

—Captain & Mrs. James Neeld

Sales Indicated By Sales Tax Collections During April, 1982 By County(000's)

Source: State Tax Commission

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Adams	35,572	1,511	Lowndes	45,923	1,588
Alcorn	18,367	686			
Amite	2,561	116	Madison	18,654	650
Attala	10,381	362	Marion	17,298	707
			Marshall	7,257	308
Benton	1,136	51	Monroe	17,655	640
Bolivar	17,897	723	Montgomery	4,865	195
Calhoun	4,226	180	Neshoba	9,643	391
Carroll	3,003	125	Newton	6,752	274
Chickasaw	6,191	236	Noxubee	3,128	135
Choctaw	2,130	87			
Claiborne	3,611	155	Oktibbeha	13,372	583
Clarke	4,605	189			
Clay	8,338	294	Panola	12,450	507
Coahoma	19,927	745	Pearl River	12,725	547
Copiah	8,122	336	Perry	1,982	91
Covington	9,401	416	Pike	20,625	886
			Pontotoc	5,587	228
DeSoto	15,152	580	Prentiss	11,826	388
Forrest	51,925	1,896	Quitman	2,956	135
Franklin	2,228	86			
			Rankin	43,320	1,485
George	5,032	216			
Greene	1,606	75	Scott	11,179	437
Grenada	5,388	98	Sharkey	2,583	119
			Simpson	10,495	419
Hancock	11,381	468	Smith	3,206	129
Harrison	97,465	3,698	Stone	4,172	118
Hinds	243,152	8,336	Sunflower	25,309	507
Holmes	6,109	271			
Humphreys	6,374	247	Tallahatchie	4,630	207
			Tate	7,456	294
Issaquena	718	16	Tippah	7,660	210
Itawamba	5,702	207	Tishomingo	8,428	288
			Tunica	2,737	123
Jackson	97,143	2,662			
Jasper	6,982	293	Union	8,156	304
Jefferson	1,944	78			
Jeff Davis	4,142	179	Walthall	5,178	198
Jones	58,173	2,435	Warren	30,672	1,282
			Washington	39,481	1,554
Kemper	2,912	109	Wayne	9,686	433
			Webster	3,089	131
Lafayette	11,550	467	Wilkinson	4,872	176
Lamar	7,206	290	Winston	8,272	334
Lauderdale	55,417	1,998			
Lawrence	4,006	161	Yalobusha	3,957	171
Leake	7,601	289	Yazoo	24,945	579
Lee	62,473	1,869			
Leflore	26,227	926			
Lincoln	19,689	723	State Total	1,576,505	56,385

Total and Per Capita Personal Income United States and Selected SMSA's Selected Years 1969-1980

	TOTAL PERSONAL INCOME				PER CAPITA INCOME			
	Millions of Dollars			Percent Change	Dollars		Percent of National Average	Rank in SMSA's
	1969	1979	1980	1979-80	1979	1980	1980	1980
United States	747,536	1,939,751	2,160,629	11.4	8,638	9,511	100	
Alexandria, LA	331	885	1,012	14.3	5,906	6,643	70	299
Athens, GA	276	821	907	10.5	6,547	6,963	73	289
Atlanta, GA	6,107	17,783	20,340	14.4	8,926	9,997	105	73
Baton Rouge, LA	1,194	3,965	4,672	17.8	8,234	9,435	99	119
Biloxi-Gulfport, MS	471	1,165	1,328	13.9	6,134	6,903	73	292
Birmingham, AL	2,418	6,882	7,568	10.0	8,138	8,909	94	169
Columbus,GA-AL	756	1,593	1,756	10.2	6,651	7,326	77	276
Daytona Beach, FL	533	1,778	2,071	16.5	7,100	7,983	84	247
Fayetteville-Springdale, AR	330	1,189	1,323	11.3	6,798	7,419	78	267
Florence, AL	316	956	1,054	10.3	7,103	7,788	82	256
Gadsden, AL	258	697	763	9.5	6,770	7,384	78	270
Houston, TX	7,486	29,307	34,549	17.9	10,456	11,861	125	11
Huntsville, AL	891	2,268	2,508	10.6	7,438	8,108	85	241
Jackson, MS	814	2,612	2,896	10.8	8,265	9,016	95	155
Knoxville, TN	1.227	3,561	3,983	11.9	7,587	8,340	88	220
Lafayette, LA	302	1,366	1,647	20.5	9,350	10,952	115	28
Little Rock - No. Little Rock, AR	1,090	3,261	3,624	11.1	8,458	9,185	97	141
Macon, GA	714	1,805	2,015	11.6	7,123	7,893	83	250
Memphis, TN, AR, MS	2,634	7,176	7,957	10.9	7,938	8,696	91	189
Mobile, AL	1,022	3,050	3,396	11.4	6,958	7,652	80	259
Monroe, LA	308	922	1,025	11.2	6,732	7,347	77	273
Montgomery, AL	684	2,044	2,277	11.4	7,612	8,330	88	221
Nashville-Davidson, TN	2,362	6,758	7,520	11.3	8,070	8,821	93	175
New Orleans, LA	3,673	10,134	11,653	15.0	8,657	9,791	103	89
Orlando, FL	1,490	5,274	6,171	17.0	7,763	8,781	92	180
Panama City, FL	192	630	719	14.1	6,458	7,336	77	275
Pascagoula-Moss Point, MS	242	777	818	5.2	6,573	6,911	73	291
Pensacola, FL	706	1,949	2,177	11.7	6,740	7,495	79	265
Pine Bluff, AR	222	617	683	10.7	6,894	7,514	79	264
Tuscaloosa, AL	290	878	972	10.6	6,478	7,052	24	287

STATE ECONOMIC INDICATORS

Indicator	April 1982[1]	March 1982[2]	April 1981[2]	Per Cent Change One Month Ago[3]	Per Cent Change One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	968,400	970,700	965,700	−0.2	0.3
Non-Ag Employment	808,600	809,400	824,600	− 0.1	−1.9
Mining	12,900	12,800	12,700	0.8	1.6
Contract Construction	40,700	40,600	41,600	0.3	−2.2
Manufacturing	210,100	211,900	220,800	−0.9	−4.9
Transportation and Public Utilities	40,300	40,300	40,500	0.0	−0.1
Wholesale and Retail Trade	162,300	161,300	162,600	0.6	−0.2
Finance, Insurance and Real Estate	32,900	32,900	32,700	0.0	0.6
Service	121,900	121,800	121,300	0.1	0.5
Government	187,500	187,800	192,300	−0.2	−2.5
Unemployment Rate (Per Cent Labor Force)	9.6	9.6	7.8	——	——
Average Weekly Earnings in Manufacturing (Dollars)	246.27	245.88	235.22	0.2	4.7
Average Hourly Earnings in Manufacturing (Dollars)	6.38	6.37	5.97	0.2	6.9
Average Weekly Hours in Manufacturing	38.6	38.6	39.4	0.0	−2.0
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,867	2,647	2,885	8.3	−0.6
Gasoline Delivered to Dealers (gals.)[6]	98,628	105,173	105,977	−6.2	−6.9
Dairy Production					
Milk (lbs.)[7]		78,000	78,000		
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[8]	7,800	9,700	25,400	−20.0	−69.3
Construction Loans	500	1,600	2,300	−68.8	−78.3
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[9]	1,504,287	1,549,183	1,570,193	− 2.9	− 4.2
Telephones in Service (Number)[10]	1,541,251	1,539,199	1,520,346	0.1	1.4
RETAIL SALES ($000's)[11]	1,208,970	1,320,524	1,168,798	−8.5	3.4

Indicator	January 1982	December 1981	January 1981	Per Cent Change One Month Ago	Per Cent Change One Year Ago
AGRICULTURE ($000's)[12]					
Total Cash Receipts from Farm Marketings	252,115	261,382	176,388	− 3.6	42.9
Cash Receipts from Marketing Livestock	70,943	67,681	77,811	4.8	− 8.8
Cash Receipts from Marketing Crops	181,172	193,702	98,577	− 6.5	83.8

[1] Preliminary

[2] Revised

[3] Percent change calculated with revised figures; not comparable with previously published data.

[4] Mississippi Employment Security Commission

[5] State Oil and Gas Board for December

[6] Mississippi Motor Vehicle Comptroller

[7] Mississippi Crop and Livestock Reporting Service

[8] Federal Home Loan Bank of Little Rock

[9] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority

[10] South Central Bell Telephone Company

[11] Mississippi Tax Commission

[12] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month April	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month April	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month April	Per Cent Change Month Ago	Per Cent Change Year Ago
Aberdeen	8,423	0.5	1.0	38,336	—14.6	—0.6	126,650	29,100	25,000
Baldwyn	4,775	—0.4	1.3	16,269	—3.9	—10.4	——	——	——
Batesville	9,391	0.3	3.3	52,424	—34.6	11.2	36,000	74,960	242,520
Bay Springs	——	——	——	19,840	30.9	—4.0	117,730	——	——
Bay St. Louis	14,559	0.8	5.8	37,358	—6.8	35.6	3,335,250	770,135	304,706
Belmont	2,409	0.0	3.0	7,585	—7.1	—24.5	——	——	——
Belzoni	5,153	—0.2	1.9	25,833	12.0	4.2	28,000	28,600	66,900
Biloxi	46,812	0.2	1.2	241,680	—2.6	9.4	927,226	1,766,318	628,203
Brandon	11,545	0.4	—4.8	34,522	—17.6	41.0	357,800	112,150	437,424
Brookhaven	16,003	0.0	—0.6	106,081	—5.8	15.0	232,900	108,325	104,850
Brooksville	1,358	1.8	3.0	2,534	28.4	3.1	——	——	——
Canton	11,202	0.3	1.8	56,120	2.6	4.7	34,150	59,984	1,281,200
Carthage	7,490	0.2	0.3	33,721	—3.4	2.5	49,700	21,200	156,905
Charleston	4,226	—0.1	—0.2	15,551	8.5	—3.3	——	——	——
Clarksdale	20,607	0.0	—2.3	101,690	—14.4	6.6	127,700	103,000	140,800
Cleveland	13,919	—0.5	—1.4	80,644	—5.7	0.9	——	——	——
Collins	4,802	0.2	3.4	33,341	5.3	57.0	65,500	15,000	42,100
Columbia	16,507	0.1	2.3	82,706	—0.4	12.9	24,000	832,000	68,200
Columbus	34,395	0.1	0.6	189,002	—10.6	—1.0	125,845	275,112	294,608
Corinth	21,098	0.0	—0.6	100,010	—5.8	1.6	133,300	76,600	237,394
Crystal Springs	6,064	0.2	0.9	19,386	—6.5	6.1	42,738	17,000	47,000
Drew	2,963	0.1	7.4	9,801	12.4	30.1	——	13,000	11,000
Edwards	1,741	—0.1	1.3	3,437	—18.4	—3.3	——	8,000	40,000
Ellisville	4,074	0.4	0.8	14,848	—0.5	—1.0	——	——	——
Eupora	4,529	0.1	1.8	16,908	22.3	11.3	——	——	——
Fayette	3,439	0.3	1.2	10,027	15.0	20.9	76,100	8,000	——
Forest	5,129	0.0	—0.4	41,944	10.7	5.9	102,300	1,248,500	——
Greenville	37,489	0.3	—0.2	229,490	—3.2	12.4	——	——	—
Greenwood	24,004	0.2	—1.4	130,805	—7.9	10.9	26,400	409,700	492,000
Grenada	14,507	0.1	0.2	78,326	—8.8	1.5	44,000	218,000	887,000
Gulfport	64,141	0.2	1.7	251,289	—0.4	15.2	435,813	330,708	529,136
Hattiesburg	62,204	0.9	1.6	290,923	—5.5	—3.7	1,346,577	1,091,139	4,292,652
Hernando	7,539	0.3	3.1	21,639	—6.7	—1.8	1,000	71,300	49,500
Hollandale	3,428	0.1	2.2	13,202	62.4	—2.1	4,979	32,435	17,500
Holly Springs	7,741	0.1	1.6	33,934	—12.1	—3.9	5,000	231,800	72,250
Houston	5,783	0.4	1.9	26,922	3.1	12.9	506,200	17,800	5,800
Indianola	7,958	0.1	—0.1	54,402	—12.2	25.7	——	——	——
Iuka	5,743	—1.1	—0.8	24,285	—3.9	—6.5	——	——	——
Jackson	232,527	—0.1	1.6	1,369,990	—2.9	15.4	13,403,211	1,980,497	4,251,729
Kosciusko	9,471	0.1	—0.9	50,324	0.7	20.0	36,075	51,100	70,600
Laurel	36,376	0.1	2.6	314,385	—25.9	—0.2	428,904	1,767,572	1,328,473
Leland	5,346	0.2	0.2	17,141	—8.3	—7.5	226,507	38,700	68,013
Lexington	5,000	1.1	2.1	17,041	—6.4	2.6	——	——	——
Louisville	10,773	0.2	0.6	46,987	9.3	11.1	163,100	43,500	146,413
Lucedale	8,617	0.0	1.3	32,185	3.7	—8.1	2,400	63,000	40,000
Lumberton	3,002	0.5	2.1	8,058	—16.7	7.1	——	——	——
Macon	3,843	0.3	2.0	13,581	—0.8	13.7	——	——	——
Magee	5,566	0.3	3.1	40,845	—4.9	19.8	——	——	——
Magnolia	4,457	—0.1	2.6	8,950	31.6	—5.1	——	7,200	69,000
Marks	5,448	0.3	—1.7	14,809	9.9	—3.5	——	——	——
McComb	20,464	—0.2	2.0	105,608	—11.9	5.3	269,350	1,137,454	996,550
Meadville	——	——	——	4,255	—7.8	20.2	——	——	——
Mendenhall	6,786	0.0	2.7	17,503	8.6	—2.0	1,040,000	——	3,200
Meridian	47,923	0.1	—1.2	297,051	—12.1	14.6	716,727	1,274,046	353,815
Monticello	5,130	0.3	3.6	18,530	18.1	11.3	——	33,000	850,500
Morton	3,673	0.7	2.1	18,857	4.0	24.5	——	——	——
Moss Point	16,961	0.4	3.2	41,452	—29.5	—21.8	126,540	107,250	265,440
Natchez	31,118	0.0	2.9	231,822	2.7	32.8	416,193	273,785	328,515
New Albany	11,551	—0.3	1.2	49,283	—0.1	14.6	100,890	51,337	7,900
Newton	4,246	0.1	2.2	17,141	—11.1	—22.0	43,275	59,196	65,636
Ocean Springs	16,214	0.1	0.6	57,234	—24.1	17.4	——	——	——
Okolona	3,485	0.2	0.4	13,218	—13.6	—2.5	1,000	1,000	19,000
Oxford	21,671	—0.4	—0.6	71,442	—14.8	3.4	365,950	81,925	1,835,429
Pascagoula	37,822	0.6	5.4	184,326	—4.3	6.0	883,556	438,949	369,645
Pass Christian	5,910	—0.5	4.8	12,271	0.7	43.6	4,500	247,945	182,675
Philadelphia	11,989	—0.1	1.8	49,553	—4.2	17.3	——	——	——

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month April	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month April	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month April	Per Cent Change Month Ago	Per Cent Change Year Ago
Picayune	16,461	0.0	3.1	76,170	9.0	1.4	183,606	431,884	238,000
Pontotoc	9,659	0.7	1.0	35,828	6.2	10.4	——	——	——
Poplarville	4,439	0.4	3.8	15,659	6.0	14.3	10,000	5,500	——
Port Gibson	6,645	0.6	11.7	15,343	1.4	17.8	——	——	——
Prentiss	4,610	−0.5	0.9	18,691	− 9.9	15.0	913,600	7,000	8,500
Quitman	5,081	0.1	1.5	23,509	− 6.6	− 6.1	——	——	——
Raymond	3,340	−0.3	3.3	4,312	12.0	−35.4	——	——	——
Richton	1,981	1.0	−1.5	7,782	8.8	− 9.3	2,500	——	——
Rosedale	1,569	−0.4	−2.7	6,530	− 8.9	− 1.9	——	——	——
Ruleville	1,960	0.2	1.5	10,863	56.9	69.1	——	——	——
Sardis	3,223	0.6	−8.7	16,666	29.5	23.3	2,000	2,000	4,000
Senatobia	7,043	0.2	2.0	40,711	− 1.1	4.6	——	5,685	8,600
Shelby	1,620	−0.4	−2.6	8,965	16.3	−13.8	——	——	——
Starkville	25,629	0.0	1.1	85,244	−14.4	11.2	231,445	118,500	291,200
Summit	1,722	0.1	3.9	9,136	−15.0	19.1	——	——	——
Taylorsville	1,817	−0.6	2.0	10,583	5.3	5.8	——	——	——
Tchula	1,995	0.4	−0.6	4.126	19.7	12.0	——	——	——
Tunica	4,264	−0.1	−1.3	14,084	8.0	− 9.8	42,600	——	——
Tupelo	38,309	0.2	0.5	274,566	7.9	5.8	188,450	916,650	556,050
Union	2,925	1.0	4.2	14,051	1.2	2.3	——	——	——
Utica	3,183	0.7	3.4	9,288	30.9	47.8	——	——	——
Vicksburg	39,748	0.2	0.5	183,127	17.9	24.1	169,178	33[illegible] 714	229,950
Walnut Grove	1,068	−0.2	1.7	1,747	19.0	22.1	——	——	——
Water Valley	4,252	0.0	2.7	22,202	20.7	9.5	——	——	69,775
Waynesboro	8,039	0.3	2.7	51,778	− 4.3	− 7.7	——	100,000	——
West Point	12,652	0.0	0.9	42,977	−16.3	7.1	1,758,000	121,750	614,680
Wiggins	6,397	0.2	0.5	22,511	6.1	2.7	76,800	125,600	49,500
Winona	5,006	0.1	−1.3	27,618	− 1.0	− 4.1	87,250	167,750	14,200
Yazoo City	12,672	0.1	0.6	65,541	7.5	32.2	——	——	——

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON [Hinds and Rankin Counties]	April 1982[1]	March 1982	April 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	163,100	163,200	158,600	−0.1	2.8
Unemployed Persons	10,300	10,600	9,400	−2.8	9.6
Per Cent of Labor Force	6.3	6.5	5.9	——	——
Employed Persons	152,800	152,600	149,200	0.1	2.4
Non-Ag Wage & Salaries	131,800	131,800	129,500	0.0	1.8
Manufacturing	19,200	19,000	17,800	1.1	7.9
TELEPHONES IN SERVICE	252,336	252,538	248,922	−0.1	1.4
CITY SALES TAX COLLECTIONS	1,421,549	1,468,370	1,228,347	−3.2	15.7

BILOXI-GULFPORT [Hancock, Harrison and Stone Counties]	April 1982[1]	March 1982	April 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	68,360	68,210	65,650	0.2	4.1
Unemployed Persons	4,760	4,840	4,110	−1.7	15.8
Per Cent of Labor Force	7.0	7.1	6.3	——	——
Employed Persons	63,600	63,370	61,540	0.4	3.4
Non-Ag Wage & Salaries	54,010	53,880	52,670	0.2	2.5
Manufacturing	9,130	9,030	8,400	1.1	8.7
TELEPHONES IN SERVICE	116,863	116,620	114,968	0.2	1.7
CITY SALES TAX COLLECTIONS	505,240	512,678	447,625	−1.5	12.9

---

[1] Preliminary

Gross Welfare Expenditures for Aid to Dependent Children Payments by County

July 1, 1980-June 30, 1981

Source:Mississippi State Department of Public Welfare

County	Expenditure
Adams	1,305,606
Alcorn	326,022
Amite	258,717
Attala	386,393
Benton	201,664
Bolivar	1,652,750
	709,290
Calhoun	281,610
Carroll	219,542
Chickasaw	86,724
	153,535
Choctaw	233,936
Claiborne	483,928
Clarke	313,092
Clay	646,838
Coahoma	1,983,295
Copiah	766,256
Covington	441,890
DeSoto	620,051
Forrest	1,215,413
Franklin	236,999
George	233,814
Greene	130,865
Grenada	534,065
Hancock	428,721
Harrison	2,631,416
Hinds	6,509,036
Holmes	1,704,024
Humphreys	725,478
Issaquena	103,195
Itawamba	106,500
Jackson	1,157,128
Jasper	409,408
Jefferson	520,308
Jeff Davis	475,864
Jones	895,562
Kemper	219,543
Lafayette	348,346
Lamar	359,450
Lauderdale	1,735,659
Lawrence	209,528
Leake	371,630
Lee	639,741
Leflore	1,619,031
Lincoln	510,339
Lowndes	1,348,523
Madison	1,633,272
Marion	567,624
Marshall	1,077,600
Monroe	621,037
Montgomery	496,447
Neshoba	446,979
Newton	274,243
Noxubee	642,708
Oktibbeha	828,613
Panola	902,872
Pearl River	601,297
Perry	303,712
Pike	1,214,325
Pontotoc	225,269
Prentiss	181,998
Quitman	514,041
Rankin	438,302
Scott	447,943
Sharkey	499,674
Simpson	304,466
Smith	175,864
Stone	146,596
Sunflower	1,479,393
Tallahatchie	894,676
Tate	600,094
Tippah	258,096
Tishomingo	61,560
Tunica	728,221
Union	247,498
Walthall	558,994
Warren	1,260,792
Washington	3,140,811
Wayne	642,861
Webster	199,029
Wilkinson	407,231
Winston	591,064
Yalobusha	241,422
Yazoo	1,132,792
	61,431,139

#U 3255-2 8/13/82

MISSISSIPPI BUSINESS REVIEW

Yearly Subscription $3.50

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Return Postage Guaranteed

Second Class Postage Paid at
Mississippi State, Mississippi 39762

4

DR. CRESS

DR. PETTIJOHN

DR. KOHERS

Dr. William P. Cress is Associate Professor in the Department of Accountancy at the University of Wisconsin-Eau Claire. He received his Ph.D. from North Texas State University and is a licensed CPA in North Dakota and Wisconsin.

Dr. James B. Pettijohn is Assistant Professor in the Department of Business Administration at the University of Wisconsin-Eau Claire. He received his Ph.D. from the University of Nebraska.

Dr. Theodor Kohers is a Professor in the Finance Department at Mississippi State. He earned his B.A. degree from the University of Washington and his MBA and Ph.D. degrees from the University of Oregon.

TABLE OF CONTENTS

Leyden Succeeds Rogers as Dean, Trotter Retires 3
Making the Depreciation Decision Under the '81 Tax Act 4
Yield Spread Analysis; The Evidence from the Last Decade 9
Indexes of Selected Mississippi Economic Indicators 12
Sales Indicated By Sales Tax Collections During May 12
Meet the Faculty 13 & 14
Tourist Brief 15
New and Expanded Industry 16
Selected Unemployment Rates 16
State Economic Indicators 17
Business Activity by City 18
SMSA 19
Timber Severence Tax Collections 20

VOLUME XLIV JULY, 1982 NUMBER 1

James D. McComas, Ph.D.
President, Mississippi State University

Dennis R. Leyden, Ph.D.
Dean, College of Business and Industry

Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing

Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics

Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics

Louis M. Capella, D.B.A.
Editorial Advisor

Oris L. Odom, II, Ph.D.
Editorial Advisor

Thomas W. Hinckle, Ed. D.
Editorial Advisor

Janis C. Bryant
Assistant Editor

Dale Adams
Secretary

Diane Dendy
Secretary

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

Leyden Succeeds Rogers As Dean; Trotter Retires

DR. ROGERS

DR. TROTTER

DEAN LEYDEN

The College of Business and Industry faculty, staff, and friends gathered together in June to honor Dr. Gaines Rogers, retiring as Dean of the College of Business, and Dr. S. E. Trotter, retiring as Director of Graduate Studies.

Since coming to Mississippi State University, both men have dedicated their professional lives to raising the standards of the College of Business and Industry.

Dr. Rogers became the fifth dean of the College in 1968. Since then, he has founded the College Alumni Association, and, working closely with the architect, designed McCool Hall. Although he steps down as dean, he will remain at Mississippi State as Professor of Finance.

Dr. Trotter, aside from being the former head of the Departments of Business Administration and Finance, organized the Division of Business Services. He was later appointed the Director of Graduate Studies.

Replacing Dean Rogers is Dr. Dennis R. Leyden from the College of Business and Economics at West Virginia University. He received his B.S. with honors from Clemson University and his Ph.D. in Economics from the University of Virginia. He has taught Economics at West Virginia University since 1961 and obtained full professor in 1981. In 1971 he became Director of the Bureau of Business Research.

His major career accomplishments include designing and directing an applied research course in the MBA program, coordinating the design of a new building for the College of Business and Economics, and increasing external funding for the Bureau of Business Research. He was appointed Chairman of the New Building Committee at the College of Business and Economics, served as president of the Association for University Business and Economic Research, and edited the **Business Law Review** at West Virginia University.

Making the Depreciation Decision Under the '81 Tax Act

by William P. Cress
James Pettijohn

Prior to the Economic Recovery Tax Act of 1981 (ERTA), a taxpayer was allowed to select the depreciation period for an asset based on facts and circumstances or a period selected from the Asset Depreciation Range (ADR) designated for that particular asset as part of the ADR system. ERTA replaces ADR with the Accelerated Cost Recovery System (ACRS) which designates the cost recovery period for specific classes of depreciable assets (See Exhibit 1). Furthermore, it sets forth the percent of cost which may be deducted in each year, reflecting the 150 percent declining balance method with a switch to straight-line at the optimal point. Both ADR and ACRS reqire use of what is called the half-year convention where a half year's depreciation is taken on all assets put in service during the year.

While ERTA provides for more liberalized depreciation rules under ACRS, it also allows the taxpayer to elect an optional recovery period (ORPS) for all property in a particular class which is placed in service during a given year. These cost recovery periods are presented in Exhibit 2. Although ORPS requires the use of straight-line depreciation, there are circumstances in which its use is preferable. Thus, great care must be taken to evaluate the effects of the depreciation method election on the firm's cash flows.

The purpose of this article is to outline the considerations that should be given to the depreciation election. First, an example is presented to show the differential present values of depreciation deductions for a specific set of facts. Second, a table of values has been developed to allow the practitioner to quickly determine the differential present values of cash flows for any depreciation election decision. Finally, there is a discussion of circumstances in which the tax benefits of an optional recovery period may exceed the tax benefits from using ACRS.

Using Present Value for Comparing Depreciation Methods

There is a definite cost or penalty associated with electing to use the optional recovery period and its mandatory straight-line method in lieu of the ACRS rates. The best way to express the magnitude of this cost is to compare the present values of the tax savings that would be realized by employing each method. Exhibit 3 presents an example of how these savings can be calculated and compared. For purposes of this example, the following assumptions have been made:

(1) Asset acquisition cost = $100,000.
(2) Asset is in the 5 year SCRS recovery class.
(3) The asset's ADR class life is 12 years.
(4) The half-year convention applies.
(5) No salvage value.
(6) Corporate tax rate is 46%.
(7) Cost of capital or present value discount rate is 10%.
(8) 1981-84 ACRS Rates

Columns 1, 2, and 3 of Exhibit 3 show the annual depreciation, the resulting tax savings and the present values of those tax savings if the optional recovery period is used. Columns 4, 5, and 6 show the annual ACRS depreciation, the resulting tax savings and the present values of those tax savings if ACRS is elected. As is traditionally the case, it is the bottomline that is most important. Comparing the totals of columns 3 and 6, it can be seen that the use of ACRS provides $12,415 greater present value of tax benefits than ORPS. This becomes most meaningful when compared with the $100,000 cost of the asset. In this instance, the present value of the tax savings from ACRS in excess of those from ORPS represents 12.41% of the cost of the asset ($12,415/$100,000).

This ratio will hereafter be referred to as the benefit/-cost ratio. (Present Value of ACRS-Present Value of ORPS, divided by Asset Cost).

The preceding analysis is based on certain explicit and implicit assumptions and upon specific values for the variables involved. An awareness of these factors is critical to a complete understanding of the analysis. The tax rate is explicity assumed to be a flat 46%. If the tax rate had been assumed to be any other constant rate, the benefit/cost ratio would have been proportionately higher or lower. For example, if a 23% tax rate had been applicable, the benefit/cost ratio would have been one-half of 12.42%. Two implicit assumptions are made: (1) the firm has sufficient taxable income to utilize the accelerated tax deductions under ACRS and (2) there is no difference in the tax treatment of asset disposals under the alternative depreciation methods. The effects of these three assumptions are considered in the last part of the article.

Specific values had been assigned to asset cost and discount rate in the previous example. In addition, only one combination of recovery periods was used. The cost of the asset does not affect the benefit/cost ratio. If the asset cost in the preceding example had been other than $100,000, the relationship between the present value of tax savings and the asset cost would still have been 12.42%. There is, though, a direct relationship between the discount rate used and the resulting benefit/cost ratio. This merely indicates that accelerating tax benefits is most important to those firms that are able to earn a high rate of return on investment of the tax dollars saved. The benefit/-cost ratio is also affected by the particular combination of recovery periods under the ACRS and ORPS alternatives. The greater the disparity between the cost recovery periods under the two methods, the greater the resulting benefit/cost ratio.

A Generalized Model

Exhibit 4 provides benefit/cost ratios for all possible combinations of cost recovery periods under ACRS and ORPS. At a glance, one can see the relative magnitude of the tax savings from using ACRS over ORPS. The absolute dollar difference in the present value of ACRS tax savings for any investment can also very quickly be determined. For example, Apex Corporation has acquired a building at a cost of $275,000. The building has an ADR life of 35 years, but an ACRS cost recovery period of 15 years. If the company considers its cost of capital to be 15%, the applicable benefit/cost ratio is 14.67%. Translated into dollars, this means that the present value of the tax savings from using the accelerated cost recovery system is $40,342.50 ($275,000 x 14.67%). This assumes that Apex's applicable tax rate is the same 46% used to construct Exhibit 4. If Apex's tax rate was 39%, the tax savings differential could equal $34,203.42 ($275,000 x 14.67% x 39/46).

It might be helpful to summarize the factors affecting the use of Exhibit 4:

1. The table values are only applicable to asset acquisitions in the 1981-1984 period since ACRS rates are scheduled to become more accelerated for years subsequent to 1984.
2. The benefit/cost ratios are independent of acquisition cost.
3. The table contains values for only those possible alternatives expressed in Exhibit 2.
4. A 46% tax rate was used to construct the table. If a different tax rate is deemed more applicable, the benefit/cost ratio applicable to the decision under consideration must be multiplied by the ratio of the applicable tax rate of 46%.
5. Exhibit 4 gives values under three alternative discount rates. If a different discount rate is more appropriate, any attempt to interpolate will necessarily involve some estimation error.

Possible Benefits from Using ORPS

Generally, ACRS is preferable over ORPS, but for every generalization there is usually an exception or two. It is possible for the present value of tax benefits from ORPS to exceed the present value of tax benefits from ACRS. Three factors to consider are discussed below.

The Impact of Graduated Tax Rates. For corporations whose taxable income borders on $100,000, the present value of depreciation charges under ORPS may exceed that under ACRS. Exhibit 5 shows the effect of lumping depreciation deductions in the early years under ACRS, leaving amounts of taxable income in the later years subject to the maximum corporate tax rate. The example assumes income before depreciation expense of $160,000 and an asset with a cost of $400,000, 5 year ADR life and 3 year ACRS recovery period. The half-year convention applies. It also employs the current corporate tax rates. This same phenomenon can also affect a taxpayer subject to graduated individual income tax rates.

Recapture Rules. The '81 Tax Act stipulates that ACRS deductions for nonresidential real property depreciated on a straight-line basis using an optional recovery period are not subject to depreciation recapture when the property is disposed of. This is in contrast to nonresidential real property depreciated under ACRS, where any gain up to the amount of ACRS deductions is treated as ordinary income. A comprehensive present value analysis must take into consideration the tax liability related to assist disposal.

Net Operating Loss Carryover. The net operating loss carryover (NOL) period was increased from 7 to 15 years under the new tax act. This substantially increases the probability that all depreciation deductions will get used, assuming a company is going to be profitable in the long run. But the use of an optional recovery period is another way of extending the usefulness of depreciation deductions when uncertainty exists regarding future profitability.

Summary

The purpose of this article was to present the factors which should be considered in making the depreciation method election. Exhibit 4, the centerpiece of the article, can be used to calculate the present cash savings from using the accelerated cost recovery system rather than an optional recovery period. But, while it is generally true that ACRS will be more beneficial, a proper decision can be made only after giving consideration to the possible effects of the three factors just discussed.

Exhibit 1

ACRS RECOVERY PERIODS FOR CLASSES OF ASSETS*

Type of Property	ACRS Recovery Period
Autos, Light Trucks, Personal Property, with an ADR midpoint Life of 4 years or less	3 years
Generally, most property with a current ADR class life of more than 4 years	5 years
Real property with a current ADR class life of 12.5 years or less	10 years
Real property with an ADR midpoint life of more than 12.5 years or with no ADR life	15 years

*Shows the ACRS recovery periods that are now allowed for various property classifications under the old ADR method.

Exhibit 2

OPTIONAL RECOVERY PERIODS FOR ACRS CLASS PROPERTY*

ACRS Recovery Period	Optional Recovery Periods
3-year property	3, 5, or 12 years
5-year property	5, 12, or 25 years
10-year property	10, 25, or 35 years
15-year property	15, 35, or 45 years

*Shows the optional recovery periods that may be used with straight-line depreciation as an alternative to the new ACRS recovery periods.

Exhibit 3

PRESENT VALUE ANALYSIS
12 YEAR ORPS VS 5 YEARS ACRS
(Asset Cost = $100,000)

Column	(1)	(2)	(3)	(4)	(5)	(6)
YEAR	ORPS DEPRECIATION(a)	TAX SAVINGS(b)	PV OF TAX SAVINGS @ 10%	1981-84 ACRS DEPRECIATION(c)	TAX SAVINGS(d)	PV OF TAX SAVINGS @ 10 %
1	$4,167	$2,250	$2,250	$15,000	$ 8,100	$ 8,100
2	8,333	4,500	4,091	22,000	11,880	10,800
3	8,333	4,500	3,719	21,000	11,340	9,372
4	8,333	4,500	3,381	21,000	11,340	8,520
5	8,333	4,500	3,074	21,000	11,340	7,745
6	8,333	4,500	2,794			
7	8,333	4,500	2,540			
8	8,333	4,500	2,309			
9	8,333	4,500	2,099			
10	8,333	4,500	1,908			
11	8,333	4,500	1,735			
12	8,333	4,500	1,577			
13	4,167	2,250	717			
TOTALS			$32,122			$44,537
						-32,122
DIFFERENCE						$12,415

BENEFIT/COST RATIO $12,415 ÷ $100,000 = 12.41%

(a) Uses straight-line depreciation, 12-yr. ORP life, no salvage value, and half-year convention for first year's depreciation.
(b) Column (1) X (1 - t), where t = tax rate = 46%.
(c) 1981-84 ACRS rates for asset with 5 year ACRS life are 15%, 22%, 21%, and 21% for years 1-5, respectively.
(d) Column (4) X (1 - t), where t = tax rate = 46%.

Exhibit 4

BENEFIT/COST RATIOS FOR ALL POSSIBLE ACRS/ORPS ALTERNATIVES*

1981 - 1984 ACRS RATES

ORPS YRS	10%				15%				20%			
	Recovery Class				Recovery Class				Recovery Class			
	3	5	10	15	3	5	10	15	3	5	10	15
3	1.66	na**	na	na	2.26	na	na	na	2.77	na	na	na
5	5.58	1.55	na	na	7.52	2.03	na	na	8.95	2.38	na	na
10	na	na	2.37	na	na	na	2.88	na	na	na	3.17	na
12	16.41	12.34	na	na	20.22	14.72	na	na	22.50	15.93	na	na

Exhibit 4
(Continued)

BENEFIT/COST RATIOS FOR ALL POSSIBLE ACRS/ORPS ALTERNATIVES*

1981 - 1984 ACRS RATES

ORPS	10%				15%				20%			
YRS	Recovery Class				Recovery Class				Recovery Class			
15	na	na	na	2.63	na	na	na	3.01	na	na	na	3.15
25	na	23.95	16.62	na	na	25.94	17.01	na	na	26.15	16.32	na
35	na	na	21.59	15.76	na	na	21.04	14.67	na	na	19.61	13.20
45	na	na	na	19.0	na	na	na	17.06	na	na	na	15.07

*Each cell contains the benefit/cost ratio calculated for that particular combination of ORPS years and ACRS recovery class. Calculations for each cell proceed in a manner identical to that used in Exhibit 3. Benefit/Cost ratios are given for all possible ACRS/ORPS alternatives with present values computed at discount rates of 10%, 15% and 20%.

**"not applicable" because such an optional recovery period is not available for the particular ACRS class.

Exhibit 5

PRESENT VALUE ANALYSIS
ORPS PROVIDES GREATER PRESENT VALUE
(Asset Cost = $400,000)

YEAR	ACRS DEPRECIATION(a)	TAX SAVINGS(b)	PV OF TAX SAVINGS @ 10%	ORPS DEPRECIATION(c)	TAX SAVINGS(b)	PV OF TAX SAVINGS @ 10 %
1	$100,000	$42,100	$42,100	$40,000	$18,400	$18,400
2	152,000	52,990	48,173	80,000	35,600	32,364
3	148,000	53,310	43,231	80,000	35,600	29,421
4	0	0		80,000	35,600	26,747
5	0	0		80,000	35,600	24,315
6	0	0		40,000	18,400	11,425
TOTALS			$133,504			$142,672
						-133,504
DIFFERENCE						$ 9,168

BENEFIT/COST RATIO favoring ORPS $9,168 ÷$400,000 = 2.29%

(a) 1981-84 ACRS rates for a 3-yr. asset = 25%, 38%, and 37% respectively. (Half-year convention is employed for year 1 depreciation)

(b) Tax saving calculated assuming 1981 corporate tax rates and $160,000 of income before taxes and depreciation expense.

Example: Yr. 1 - Tax on $160,000 without depreciation expense = $54,350
Tax on $60,000 with depreciation expense = - 12,250
Tax savings due to depreciation expense = $42,100

(c) Uses 5-yr., straight-line, and half-year convention.

YIELD SPREAD ANALYSIS

The Evidence from the Last Decade

Dr. Theodor Kohers

Several studies have examined yield differentials among various money and capital market instruments. For example, see [2,3,4,6]. While most papers attempted to identify the determinants of yield spreads, this paper concentrates on the consistency of yield spreads over time. More specifically, the purpose of this paper is to examine the degree of variation in interest rate spreads among various money and capital market instruments over the 1970-1980 decade.

Methodology and Data Description

The past decade has been a period of unusual movements in interest rates. Table 1 is a basic description of ten prominent short-term and long-term interest rates that prevailed over the period from January, 1970, through July of 1980. Two conclusions can be drawn from Table 1 about the behavior of interest rates over the period examined. For one, interest rates showed enormous fluctuations. For example, the yield on 3-month U.S. Treasury Bills ranged from a low of 3.2 percent to a high of 15.2 percent, for a difference of 12 percent over a period of 10 years. Secondly, without exception, similar widespread movements in interest rates were experienced by all the other instruments examined. Of course, if the relationships among the interest rates were fairly constant over time then it really would not matter that there are many other interest rates since explaining the movement in any one of the interest rates would also explain the movement in all the other interest rates. Unfortunately, to the extent that the relationships among the various levels show variation over time an appropriate explanation of the movement in one interest rate cannot be used to explain movements in other rates.

TABLE 1

YIELDS OF SELECTED MONEY AND CAPITAL MARKET INSTRUMENTS
1970 - 1980

Instruments	Mean Yield	Standard Deviation	Range
3-month U.S. Treasury Bills	6.5327%	2.2212	3.200-15.200
Federal Reserve Discount Rate	6.7467%	2.1562	4.500-13.000
90-day Prime Bankers Acceptance	7.3397%	2.6586	3.520-17.100
Federal Funds	7.4020%	2.9188	3.290-17.610
3-month Commercial Paper	7.4035%	2.6082	3.810-16.810
Prime Rate	8.4856%	2.9299	4.750-19.770
Aaa Municipal Bonds	5.6894%	0.6833	4.750-8.160
20-year U.S. Treasury Bonds	7.3015%	1.4567	5.440-12.490
Aaa Corporate Bonds	8.4097%	1.0957	7.080-12.960
Conventional Mortgages	9.0409%	1.6000	7.360-16.050

Therefore, it is essential to know what the past relationships among various interest rates have been. This study concentrates on the degree of association between the yield on 3-month U.S. Treasury Bills, on the one hand, and the rate on (a) 90-day prime bankers' acceptances, (b) 3-month commercial paper, (c) federal funds, (d) the prime rate, (e) the Federal Reserve discount rate, (f) conventional mortgages, (g) 20-year U.S. Treasury bonds, (h) Aaa corporate bonds, on the other hand. More specifically, a simple regression was used to establish the degree of correlation between the T-Bill yield and the yields on the money and capital markets instruments identified above. The T-Bill yield was used as the basis for the comparison since it came closest to a risk-free yield and it seems only appropriate to relate other rates to it.

Table 2 shows the correlation between T-Bill yields and nine short- and long- term instruments in order of association. A number of interesting observations can be made by looking at this table. For one, over 90 percent of the variation in the yield of bankers acceptances, commercial paper, and federal funds was explained by the T-Bill yield. In the case of bankers' acceptances, only 4.2 percent of the variation in its yield was not explained by the T-Bill yield. Furthermore, as could be expected, the degree of correlation between the T-Bill yield and the yield on capital market instruments is not as high as the correlation between the T-Bill yield and short-term rates. Obviously, the more securities have in common, i.e., similar maturity, risk characteristics, taxability, the more their rates will move uniformly.

Two important questions are raised by the size and variability of spreads among interest rates. First, why is it important that spreads among different securities do not remain constant? Second, what are the causes for yield spreads to change over time? The first question can be answered by stating that borrowers like to raise funds at as low a cost as possible. Of course, there are many different types of borrowers in the market that rely on different securities to finance their real investments. Thus, when an interest rate series for one type of security rises relative to the interest rate series for another of these securities, the cost of the activity the former finances becomes relatively more expensive. Since various economic sectors respond to changing interest rates when making decisions on real investment activity, an increase in one interest rate relative to another can thereby affect the pattern of capital allocation in the economy. Consequently, a change in spread is a matter of concern not only to those economic units supplying the securities but also for policymakers whose decisions can influence interest rate relationships.

The second question - what are the causes for yield spreads to change over time- is a difficult one to answer. Most empirical studies on this subject identify the following factors as being responsible for yield differentials to change over time:

(a) **Risk of Default**

A decrease in expected levels of future business activity should raise investors' fear of default and consequently lead them to demand a higher premium on the riskier debt; and vice versa [5].

TABLE 2

RELATIONSHIP BETWEEN T-BILL YIELDS
AND YIELDS ON SELECTED MONEY AND CAPITAL MARKET INSTRUMENTS
1970 - 1980

Correlation Between T-Bill Yield and Yields on	Coefficient of Correlation	Coefficient of Determination
90-day Prime Bankers Acceptances	.9789	.9583
3-month Commercial Paper	.9708	.9425
Federal Funds	.9618	.9251
Prime Rate	.9417	.8868
Federal Reserve Discount Rate	.9320	.8685
Conventional Mortgages	.8274	.6845
20-year U.S. Treasury Bonds	.8037	.6460
Aaa Corporate Bonds	.7932	.6291
AAa Municipal Bonds	.5579	.3113

(b) **Relative Supplies of Securities**

An increase in the quantity of one security outstanding relative to that of another should raise the differential yield between the securities in question [5].

(c) **Liquidity Risk**

This measure must be able to reflect the periodic changes in investors' appreciation of marketability since that appreciation may change over time. More specifically, the value of liquidity is based on many often unobservable factors, such as sales, future interest rates, and government policies [5].

(d) **Income Tax and Capital Gains Tax Rates**

Various studies have shown that both income tax and capital gains tax rates have effects on observed yield spreads that vary with interest rate movements [1].

Based on the evidence presented here it should be clear that differentials among the interest rates examined in this study changed over the last ten years. This observation is especially true for the comparison between the T-Bill yield and capital market rates, to a lesser extent it also holds true when comparing the spread between T-Bills and other short-term rates. From a practical point of view it is of interest to know what kind of a change did actually take place in the various interest rate relationships over the last decade.

While Table 2 revealed the degree of correlation between the T-Bill yield and selected short-term and long-term instruments, Table 3 indicates the consistency of these yield spreads over time. Table 3 is an extension of Table 2 insofar as it shows the mean spread and two measures that are used to describe a spread's distribution. For example, it was previously found (Table 2) that 95.8 percent of the variation in the yield on bankers' acceptances was explained by the movements in the T-Bill yield. Table 3 shows that the average spread over the last decade between these two instruments was 0.807 percent. if the interest rate differential had remained perfectly consistent, then there would, of course, not be any deviation possible from that value. However, since the correlation between T-Bill yields and yields on bankers' acceptances was less than perfect, the spread did not remain right at 0.807 percent all the time. In fact, Table 3 indicates that in 68 percent of the cases (i.e., 1 standard deviation) the bankers' acceptance-T-Bill spread was 0.807 percent = 0.667 percent. Similar comparisons can be made for the other instruments listed.

TABLE 3

CONSISTENCY OF YIELD SPREADS BETWEEN T-BILLS
AND SELECTED MONEY AND CAPITAL MARKET INSTRUMENTS
1970-1980

Mean Yield Differences Between	Spread	Standard Deviation	Range of Spread
Bankers Acceptances - T-Bills	.8070	.6637	0.090-4.330
Commercial Paper - T-Bills	.8708	.6982	0.090-4.380
Federal Funds - T-Bills	.8693	.9909	—0.300-5.370
Prime Rate - T-Bills	1.9529	1.1228	0.210-7.990
Discount Rate - T-Bills	.2140	.8099	—2.200-4.360
Conventional Mortgages - T-Bills	2.5082	1.2700	—0.730-5.380
Treasury Bonds	0.7688	1.3618	—2.710-3.130
Corporate Bonds - T-Bills	1.8770	1.5078	—2.240-4.070
Municipal Bonds - T-Bills	—0.8433	1.9254	—7.040-1.810

Conclusion:

This paper examined the monthly movements in yield spreads for various money and capital market instruments over the period from 1970 through 1980. It was found that there was far greater consistency among short-term securities than there was between T-Bills and capital market rates.

This article has made no attempt to empirically explain elements of observed yield spreads although factors thought to be responsible for yield differential changes were identified.

REFERENCES

[1] T.Q. Cook, "Changing Yield Spreads in the U.S. Government Bond Market," **Economic Review**, Federal Reserve, Bank of Richmond, March-April 1977, pp. 3-8.

[2] T.Q. Cook and P.H. Hendershott, "The Impact of Taxes, Risk, and Relative Security Supplies on Interest Rate Differentials," **Journal of Finance**, September 1978, pp. 1173-1186.

[3] R.C. Fair and B. E. Malkiel, "The Determinants of Yield Differentials Between Debt Instruments of the Same Maturity," **Journal of Money, Credit, and Banking**, November 1971, pp. 733-749.

[4] M.G. Ferri, "An Empirical Examination of the Determinants of Bond Yield Spreads," **Financial Management**, Autumn 1978, pp. 40-46.

[5] M.G. Ferri and J.P. Gaines, "A Study of Yield Spreads in the Money Market: 1971-1978," **Financial Management**, Fall 1980, pp. 52-59.

[6] D.M. Jaffee, "Cyclical Variations in the Risk Structure of Interest Rates," **Journal of Monetary Economics**, July 1975, pp. 309-325.

INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS
[Seasonally Adjusted]
1969=100

Indicator	May 1982	April 1982	May 1981
Retail Sales	159.0	167.9	176.9
Electric Sales	208.0	202.7	204.7
Telephones in Service	230.0	232.4	229.1
Gasoline Gallonage	166.0	124.9	132.9
Loans of Savings & Loan Institutions	73.7	46.2	158.9

Sales Indicated By Sales Tax Collections During May, 1982 By County(000's)

Source: State Tax Commission

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Adams	1,657	39,028	**Lowndes**	1,988	51,836
Alcorn	751	20,225			
Amite	122	2,952	**Madison**	891	29,611
Attala	343	9,434	**Marion**	840	19,926
			Marshall	365	8,206
Benton	47	1,100	**Monroe**	673	17,587
Bolivar	842	20,945	**Montgomery**	217	5,230
Calhoun	246	5,836	**Neshoba**	415	10,808
Carroll	92	2,326	**Newton**	305	7,269
Chickasaw	306	7,415	**Noxubee**	175	4,890
Choctaw	93	2,186			
Claiborne	613	49,504	**Oktibbeha**	683	15,116
Clarke	207	5,043			
Clay	360	10,163	**Panola**	537	13,269
Coahoma	817	19,793	**Pearl River**	636	14,569
Copiah	381	9,045	**Perry**	218	9,739
Covington	310	7,271	**Pike**	1,169	26,096
			Pontotoc	249	6,257
DeSoto	811	20,101	**Prentiss**	378	10,059
Forrest	2,518	66,845	**Quitman**	162	3,861
Franklin	101	2,761			
			Rankin	1,733	49,665
George	217	5,205			
Greene	73	1,537	**Scott**	435	10,416
Grenada	562	15,281	**Sharkey**	129	2,796
			Simpson	400	9,460
Hancock	527	12,985	**Smith**	127	3,050
Harrison	4,473	112,936	**Stone**	166	3,860
Hinds	9,707	288,394	**Sunflower**	611	29,362
Holmes	300	6,768			
Humphreys	238	6,071	**Tallahatchie**	222	5,190
			Tate	288	7,133
Issaquena	5	109	**Tippah**	317	18,065
Itawamba	289	9,032	**Tishomingo**	329	9,328
			Tunica	140	3,249
Jackson	3,573	141,841			
Jasper	285	6,531	**Union**	344	9,166
Jefferson	72	1,996			
Jeff Davis	212	5,168	**Walthall**	232	5,930
Jones	2,682	62,840	**Warren**	1,237	28,281
			Washington	1,796	45,189
Kemper	84	1,798	**Wayne**	522	11,967
			Webster	125	2,919
Lafayette	589	13,433	**Wilkinson**	165	3,671
Lamar	293	7,990	**Winston**	349	8,833
Lauderdale	2,431	62,872			
Lawrence	157	3,541	**Yalobusha**	199	4,716
Leake	269	6,319	**Yazoo**	680	22,956
Lee	2,322	85,991			
Leflore	1,093	28,339			
Lincoln	841	21,046	**State Total**	66,213	1,863,919

MEET THE FACULTY

R. S. Wofford

School of Accountancy

Ralph Scott "Scotty" Wofford retired in May as Professor of Accountancy after teaching thirty and a half years at Mississippi State University.

Born in Mantee, located in the northeast corner of Chickasaw County, Scotty received his B.S. degree from Mississippi State before flying to Denver, Colorado. There he not only obtained his MBA from the University of Denver, but also met and married Edith Thomas.

He taught for one year at North Texas State University before coming back to Mississippi State. Along with his teaching he worked as an auditor for two years with the Mississippi Public Service Commission.

He holds membership in the American Institute of Certified Public Accountants, American Accounting Association, National Association of Accountants, and the Mississippi Society of Certified Public Accountants.

Other professional activities include membership in Beta Alpha Psi and as advisor to the Sigma Chi Fraternity and Delta Sigma Pi.

Scotty and Edith are members of the First Presbyterian Church. He is also active in the Rotary Club.

Although he retired from teaching, Scotty is working full-time in his own CPA business.

MEET THE FACULTY

Dr. Daniel S. Cochran

Department of Management

Dr. Daniel S. Cochran is an Associate Professor of Management at Mississippi State University. He received his Bachelor of Business Administration degree from Lamar University in Marketing, his MBA in Financial Management from Sam Houston State University and his Ph.D. from University of Arkansas School of Business where he majored in Management.

Before entering the teaching profession, Dr. Cochran worked as a wholesale drug salesman for the Southwestern Drug Corporation.

He has been involved with several Management Development programs for such companies as the Celanese Chemical Corporation, Champion International, Department of Labor and, locally, the Mississippi Vocational Rehabilitation Administration and the Peoples Bank of Mississippi. These included topics, such as personnel problems, conflict management, stress management and motivation.

His most recent publications have been "Impact of Sex Role Differences Upon the Frame of Reference of Male and Female Residential Real Estate Salespeople in Their Evaluation of Career Opportunities" in the 1980/81 Winter edition of the **Journal of Personal Selling and Sales Management**, and "Intraorganizational Conflict in the Hospital Purchasing Decision-Making Process", published in the June 1981 issue of the **Academy of Management Journal**.

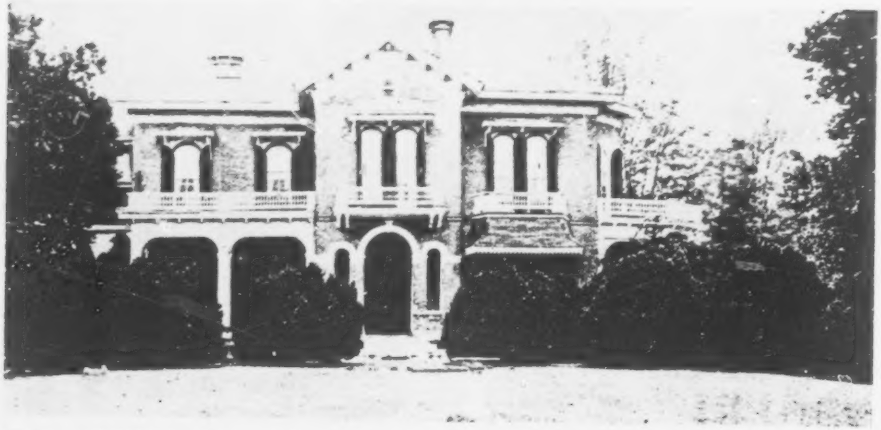
Presently he is serving on the program committee for the Southern Management Association and as program chairman for the Southwest American Business Communication Association. He has been president of the Ozark Economic Association, the University of Arkansas Alumni Association.

Dan and his wife, Melody, have three children: Steven, Heather Joy and Aimee. The children's activities keep them busy, especially during baseball season in the summer. Dan is coach for the Dizzy Dean league and is also involved in Youth Association Basketball. He is also secretary-treasurer of the Starkville Fellowship of Christian Athletes.

The Cochrans attend Faith Baptist Church and are active in Sunday School and the Training Union programs.

Tourist Briefs

Ammadelle



Excellently maintained with minimal change, Ammadelle is a fine example of the work of Calvert Vaux in the period just prior to the Civil War. Though young, Vaux was already professionally respected as both architect and landscaper architect. Inclusion of a similar design in the second and third edition of Vaux' **Villas and Cottages** (p. 313, Design No. 32) suggests that he regarded Ammadelle as representative of his best work.

Ammadelle's location in Oxford, Mississippi, demonstrates that wealthy Mississippians of that era could keep abreast of architectural fashions. The crippled economy which followed so shortly after has protected the environment from destructive developmental pressures.

Before building Ammadelle, Thomas E. B. Pegues contacted architect Calvert Vaux who showed him examples of his works along the Hudson River. Brought from England in 1850 to become a partner of Andrew Jackson Downing, a nationally dominant tastemaker in domester architecture and landscaping, Vaux practiced independently in the years immediately following Downing's death in 1852. After moving to New York City in 1857, he invited Frederick Law Olmstead to collaborate on the design for Central Park. Their success in this competition was followed by a continuing association dominated by Olmsted.

Vaux' plans and elevations for Ammadelle were prepared in 1857 when he was 34 years old. Additional detail drawings were prepared in 1860 as construction was underway. Except for the first floor plan, the original signed drawings are in the possession of the present owners.

With the exception of balconies across the rear and a wine cellar, construction was complete when halted by the Civil War; the missing features have never been added. Subsequent changes have been limited to replacement of three first-floor mantels in the late 19th century and recent modernization in the kitchen. The quality of the original design and construction and continuing maintenance have necessitated minimal repair.

Built of red brick with white Italianate trim and black shutters, the house has an irregular plan. Porches on the east (front) and north provide shaded, open, outdoor rooms. The front entrance is deeply recessed and opens into a reception hall connecting through great double sliding doors to the stair hall at the rear. To the right are double parlors; through the rear parlor one can enter a small library. To the left is the dining room with a small conservatory at the south end. A sequence of pantries and halls leads to the kitchen in a one-story wing. There is one bedroom on the first floor rear and five on the second floor. The dominant effect of the interiors is one of spaciousness and solidity. Vaux' details are as well ordered as the overall scheme. Vaux was both architect and landscape architect.

Appropriately, the 7-acre site is developed with picturesque curves defining lawns and plantings.

NEW AND EXPANDED INDUSTRY

Town	Firm	Product	No. of Employees
NEW			
Canton	Catalina Pools	Swimming Pools	20
Clinton	Mississippi Casket Company	Burial Caskets	12
Forest	Machine-Built Log Homes	Log Cabin Homes	20
Glendora	Swan Lake Gin	Cotton Gin	25
Meridian	Amicrete	Concrete	
New Albany	Custom Alloys Corporation	Aluminum smelting	12
Port Gibson	Port Gibson Electric Mfg. Co.	Auto Harness	250
EXPANDED			
Carthage	Allied Enterprises	Shirts	15
Columbus	American Insulation Products	Fabricator/Storm Windows	4
Flowood	Rocket, Inc.	Kiln Cars	30
Greenwood	Honeywell Gin	Cotton Gin	5
Greenville	Hager Hinge	Locks & Hinges	10
Holly Springs	Mullay Plastics of Holly Springs, Inc.	Injection Molding	150
Meridian	Durr-Fillauer Medical, Inc.	Distribution Center for Drugs & Health Care Products	50
Quitman	Quitman Knitting Mills, Gulf & Western Industries, Inc.	Apparel Products	30
Wesson	Potter Co.	Radio Interference Filters	30

SELECTED UNEMPLOYMENT RATES

In May the seasonally adjusted unemployment rate rose to 9.5 percent from 9.4 percent in April.

[Monthly data seasonally adjusted]

Period	Unemployment rate (percent of civilian labor force in group)											Labor force time lost (percent) [1]
	Total (all civilian workers)	By sex and age			By race		By selected groups					
		Men 20 years and over	Women 20 years and over	Both sexes 16-19 years	White	Black and other	Experienced wage and salary workers	Married men, spouse present	Women who maintain families	Full-time workers	Part-time workers	
1976	7.7	5.9	7.4	19.0	7.0	13.1	7.3	4.2	10.1	7.3	10.1	8.3
1977	7.1	5.2	7.0	17.8	6.2	13.1	6.6	3.6	9.4	6.6	9.9	7.6
1978	6.1	4.3	6.0	16.4	5.2	11.9	5.6	2.8	8.5	5.6	9.0	6.5
1979	5.8	4.2	5.7	16.1	5.1	11.3	5.5	2.8	8.3	5.3	8.8	6.3
1980	7.1	5.9	6.4	17.8	6.3	13.1	6.9	4.2	9.2	6.9	8.8	7.9
1981	7.6	6.3	6.8	19.6	6.7	14.2	7.3	4.3	10.4	7.3	9.4	8.5
1981: May	7.5	6.3	6.7	19.4	6.7	13.7	7.2	4.0	10.4	7.1	9.6	8.6
June	7.4	6.1	6.6	19.2	6.4	14.2	7.0	4.2	10.7	7.1	9.2	7.9
July	7.2	5.8	6.7	18.7	6.3	13.8	6.8	3.9	11.2	6.8	9.3	7.9
Aug	7.3	6.0	6.6	19.0	6.2	14.7	6.9	4.0	10.1	6.9	9.6	7.9
Sept	7.6	6.2	6.9	19.7	6.6	14.8	7.3	4.4	10.7	7.3	9.6	8.5
Oct	8.0	6.7	7.0	20.4	7.0	15.2	7.6	4.8	10.6	7.7	9.5	9.1
Nov	8.3	7.1	7.2	21.4	7.4	15.2	8.0	5.2	10.8	8.1	10.2	9.5
Dec	8.8	7.9	7.4	21.5	7.7	15.7	8.5	5.7	10.5	8.7	9.2	10.1
1982: Jan	8.5	7.5	7.2	21.7	7.5	15.1	8.2	5.3	10.4	8.4	9.6	10.0
Feb	8.8	7.6	7.6	22.3	7.7	15.9	8.4	5.3	10.2	8.5	10.8	9.8
Mar	9.0	7.9	7.9	21.9	7.9	16.6	8.8	5.5	10.6	8.9	10.0	10.4
Apr	9.4	8.2	8.3	23.0	8.4	16.9	9.2	6.0	11.5	9.2	10.9	10.4
May	9.5	8.4	8.3	23.1	8.5	17.2	9.3	6.1	11.8	9.2	10.5	11.1

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as percent of potentially available labor force hours.

Source: Department of Labor, Bureau of Labor Statistics.

STATE ECONOMIC INDICATORS

Indicator	May 1982[1]	April 1982[2]	MAY 1981[2]	Per Cent Change One Month Ago[3]	Per Cent Change One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	968,400	968,400	979,300	0.0	— 1.1
Non-Ag Employment	805,000	808,600	828,100	— 0.5	— 2.8
Mining	12,800	12,900	12,800	— 0.8	0.0
Contract Construction	39,700	40,700	43,100	— 2.5	— 7.9
Manufacturing	210,200	210,100	223,700	0.1	— 6.0
Transportation and Public Utilities	40,400	40,300	40,300	0.3	0.3
Wholesale and Retail Trade	162,600	162,300	164,200	0.2	— 1.0
Finance, Insurance and Real Estate	33,000	32,900	32,800	0.3	1.0
Service	121,600	121,900	121,800	— 0.3	— 0.2
Government	184,700	187,500	189,400	— 1.5	— 2.5
Unemployment Rate (Per Cent Labor Force)	10.0	9.6	7.9	——	——
Average Weekly Earnings in Manufacturing (Dollars)	248,070	246,270	237,010	0.7	4.7
Average Hourly Earnings in Manufacturing (Dollars)	6,410	6,380	5,970	0.5	7.4
Average Weekly Hours in Manufacturing	38,700	38,600	39,700	0.3	— 2.5
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,726	2,867	2,899	— 5.0	— 6.0
Gasoline Delivered to Dealers (gals.)[6]	130,594	98,268	107,206	32.4	21.8
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[7]	11,300	7,800	23,000	44.9	—50.9
Construction Loans	1,900	500	3,000	60.0	—36.7
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[8]	1,629,336	1,504,287	1,602,571	8.3	1.7
Telephones in Service (Number)[9]	1,526,406	1,541,251	1,519,442	— 1.0	0.5
RETAIL SALES ($000's)[10]	1,450,657	1,208,970	1,510,370	20.0	— 4.0

Indicator	February 1982	January 1982	February 1981	Per Cent Change One Month Ago	Per Cent Change One Year Ago
AGRICULTURE ($000's)[11]					
Total Cash Receipts from Farm Marketings	128,469	252,115	138,654	—49.0	— 7.4
Cash Receipts from Marketing Livestock	67,202	70,943	63,773	5.3	5.4
Cash Receipts from Marketing Crops	61,267	181,172	74,881	—66.2	—18.2

---

[1] Preliminary

[2] Revised

[3] Percent change calculated with revised figures; not comparable with previously published data.

[4] Mississippi Employment Security Commission

[5] State Oil and Gas Board for January

[6] Mississippi Motor Vehicle Comptroller

[7] Federal Home Loan Bank of Little Rock

[8] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority

[9] South Central Bell Telephone Company

[10] Mississippi Tax Commission

[11] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month May	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month May	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month May	Per Cent Change Month Ago	Per Cent Change Year Ago
Aberdeen	8,405	— 0.2	0.5	42,596	11.1	—10.1	12,400	126,650	232,600
Baldwyn	4,717	— 1.2	0.1	22,800	40.1	16.4	——	——	——
Batesville	9,293	— 1.0	1.5	54,251	3.5	— 9.6	16,000	36,000	109,564
Bay Springs	——	——	——	22,869	15.3	17.5	——	117,730	——
Bay St. Louis	14,561	0.0	5.8	38,748	3.7	16.7	——	3,335,250	203,490
Belmont	2,397	— 0.5	1.8	9,184	21.1	—12.1	——	——	——
Belzoni	5,152	0.0	1.4	27,116	5.0	— 6.0	22,000	28,000	24,000
Biloxi	46,530	— 0.6	0.7	294,577	21.9	14.4	1,379,171	927,226	397,826
Brandon	11,532	— 0.1	3.3	36,252	5.0	11.6	276,500	357,800	97,800
Brookhaven	19,435	21.5	20.7	128,863	21.5	— 0.9	154,555	232,900	82,250
Brooksville	1,354	— 0.3	2.4	2,437	— 3.8	—11.4	——	——	——
Canton	11,186	— 0.1	1.2	61,808	10.1	— 5.1	——	——	——
Carthage	9,461	26.3	26.1	38,795	15.1	—27.4	23,000	49,700	83,900
Charleston	4,213	— 0.3	— 0.8	17,420	12.0	— 8.4	——	——	——
Clarksdale	20,498	— 0.5	— 2.7	128,519	26.4	—10.2	243,450	127,700	183,700
Cleveland	13,489	— 3.1	— 2.0	102,079	26.6	— 6.1	——	——	
Collins	4,701	— 0.4	3.0	27,294	—18.1	—53.2	——	——	——
Columbia	16,492	— 0.1	2.0	112,561	36.1	32.9	——	——	——
Columbus	33,812	— 1.7	— 0.0	255,322	35.1	3.7	4,880,211	125,845	1,335,881
Corinth	21,005	— 0.4	— 0.9	107,360	7.6	—10.7	188,240	133,300	132,924
Crystal Springs	6,039	— 0.4	0.6	27,386	41.3	2.1	45,600	42,738	77,000
Drew	2,942	— 0.7	6.0	11,123	13.5	— 9.6	——	——	——
Edwards	1,732	— 0.5	— 0.6	3,223	— 6.2	—10.4	——	8,000	40,000
Ellisville	4,023	— 1.3	0.1	15,114	1.8	—20.5	——	102,300	——
Eupora	4,505	— 0.5	1.2	15,849	— 6.3	—12.7	——	——	——
Fayette	3,424	— 0.4	0.9	9,472	— 5.5	— 1.8	——	——	——
Forest	6,975	36.0	35.2	48,674	16.1	—19.7	——	——	——
Greenville	37,365	— 0.3	— 0.4	258,832	12.8	—12.7	——	——	——
Greenwood	23,775	— 1.0	— 2.3	160,683	22.8	—16.6	275,280	26,400	211,800
Grenada	14,439	— 0.5	— 1.0	83,261	6.3	— 5.5	297,000	44,000	41,000
Gulfport	64,157	0.0	1.7	294,435	17.2	— 2.5	1,266,360	435,813	843,442
Hattiesburg	61,729	— 0.8	1.2	389,584	34.0	1.3	918,390	1,346,577	1,005,950
Hernando	7,543	0.1	2.6	24,678	14.0	5.3	109,565	1,000	211,140
Hollandale	3,397	— 1.0	0.9	14,921	13.0	3.7	19,500	4,979	8,500
Holly Springs	9,479	22.5	24.2	44,708	31.8	— 4.5	7,500	5,000	——
Houston	5,751	— 0.6	1.2	31,435	16.8	10.0	42,500	506,200	2,000
Indianola	7,940	— 0.2	— 0.6	69,395	27.6	— 8.8	——	——	——
Iuka	5,589	— 2.7	— 3.4	27,638	13.8	3.0	——	——	——
Jackson	230,739	— 0.8	0.3	1,561,399	14.0	— 5.1	6,412,551	3,403,211	5,758,275
Kosciusko	9,420	— 0.5	— 1.3	53,172	5.7	—15.8	53,000	36,075	694,980
Laurel	36,260	— 0.3	1.8	352,550	12.1	— 7.8	251,294	428,904	1,337,327
Leland	5,354	0.2	0.7	21,152	23.4	— 2.4	61,500	226,507	59,074
Lexington	4,999	— 0.0	1.8	19,464	14.2	—14.4	——	——	——
Louisville	10,747	— 0.2	0.1	59,787	27.2	0	130,100	— ——	——
Lucedale	8,587	— 0.4	0.3	29,903	— 7.1	—16.7	10,000	2,400	66,000
Lumberton	2,976	— 0.9	1.3	8,464	5.0	8.5	——	——	——
Macon	3,838	— 0.1	1.8	17,385	28.0	— 1.1	——	——	——
Magee	5,566	0.0	2.2	42,132	3.2	— 12.7	——	——	——
Magnolia	4,408	1.1	1.1	10,057	12.4	2.8	21,500	50,800	73,000
Marks	5,459	0.2	— 1.7	16,060	8.5	— 8.1	——	——	——
McComb	20,357	— 0.5	1.2	144,881	37.2	— 3.3	180,600	269,350	395,600
Meadville	——	——	——	5,125	20.5	—25.5	——	——	——
Mendenhall	6,787	0.0	2.7	18,817	7.5	— 6.5	9,000	1,040,000	129,000
Meridian	47,726	— 0.4	— 1.1	379,758	27.8	—11.5	608,613	716,727	468,155
Monticello	5,135	0.1	3.0	18,841	1.7	8.2	——	65,000	38,000
Morton	3,660	— 0.4	1.4	18,462	— 2.1	— 0.3	——	——	——
Moss Point	16,891	— 0.4	2.5	67,456	50.7	37.9	151,799	126,540	174,850
Natchez	31,043	— 0.2	2.5	286,135	23.4	11.0	261,100	416,193	326,010
New Albany	11,524	— 0.2	0.7	55,769	13.2	— 8.1	111,641	100,890	65,000
Newton	4,227	— 0.5	1.9	23,664	38.1	6.6	98,000	43,275	12,400
Ocean Springs	16,104	— 0.7	0.1	85,230	49.0	7.3	——	——	——
Okolona	3,423	— 1.8	— 1.8	13,717	3.8	2.4	——	——	——
Oxford	20,786	— 4.1	— 0.1	91,114	27.5	— 2.4	142,550	365,950	543,119
Pascagoula	37,790	— 0.1	5.0	221,313	20.1	12.3	569,806	883,556	620,735
Pass Christian	5,932	0.4	4.3	12,801	4.3	—16.4	1,081,063	4,500	71,300
Philadelphia	11,915	— 0.6	0 9	55,341	11.7	—11.8	——	——	——

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month May	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month May	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month May	Per Cent Change Month Ago	Per Cent Change Year Ago
Picayune	16,422	— 0.2	2.3	90,413	18.7	19.2	150,400	183,606	218,000
Pontotoc	9,636	— 0.2	1.0	37,247	4.0	— 9.5	——	——	——
Poplarville	4,310	— 1.0	3.0	16,456	5.1	— 7.0	36,000	10,000	25,500
Port Gibson	6,160	— 7.3	3.5	16,510	7.6	— 6.2	——	——	——
Prentiss	——	——	——	22,276	19.2	5.7	——	——	——
Quitman	5,048	— 0.7	1.1	25,911	10.2	1.7	——	——	——
Raymond	3,180	— 4.8	4.0	4,529	5.0	—17.6	——	——	——
Richton	1,980	— 0.1	— 1.8	9,615	23.6	—12.7	——	——	——
Rosedale	1,584	1.0	— 1.8	7,499	14.8	— 0.1	11,200	——	7,500
Ruleville	1,951	— 0.5	0.9	10,400	— 4.3	—45.1	——	——	——
Sardis	3,190	— 1.0	— 9.4	15,397	— 7.6	43.3	——	2,000	——
Senatobia	7,022	— 0.3	1.9	37,951	— 6.8	—16.4	32,000	——	34,600
Shelby	1,623	0.2	— 1.3	8,302	— 7.4	—21.4	——	——	——
Starkville	15,363	—40.1	—37.1	104,981	23.2	— 6.0	211,760	231,445	801,945
Summit	1,713	— 0.5	1.6	10,918	19.5	— 7.7	——	——	——
Taylorsville	1,822	0.3	2.2	12,464	17.8	8.3	——	——	——
Tchula	1,989	— 0.3	— 1.9	4,926	19.4	— 6.6	——	——	——
Tunica	4,285	0.5	— 0.9	15,641	11.1	—11.0	——	——	——
Tupelo	38,257	— 0.1	0.1	329,864	20.1	0.4	1,183,926	188,450	702,592
Union	2,922	— 0.1	3.3	13,577	— 3.4	— 7.0	——	——	——
Utica	3,174	— 0.3	3.0	8,672	— 6.6	—16.3	——	——	——
Vicksburg	39,579	— 0.4	— 0.3	184,580	0.8	—19.2	176,700	169,178	114,400
Walnut Grove	1,062	— 0.6	1.7	1,267	—27.5	—46.5	——	——	——
Water Valley	4,231	— 0.5	1.5	22,363	0.7	— 7.8	19,600	55,500	84,900
Waynesboro	8,032	— 0.1	2.4	71,635	38.4	— 5.6	146,700	1,000	——
West Point	12,587	— 0.5	0.3	58,197	35.4	— 3.8	——	——	——
Wiggins	6,414	0.3	0.7	21,215	— 5.8	— 8.1	26,500	76,800	16,500
Winona	4,924	— 1.6	— 2.4	32,692	18.4	— 3.3	——	——	——
Yazoo City	12,632	— 0.3	0.3	67,829	3.5	—17.4	——	——	——

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON **[Hinds and Rankin Counties]**	May 1982	April 1982	May 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	162,100	163,100	159,700	—0.6	1.5
Unemployed Persons	10,800	10,300	9,500	4.9	13.7
Per Cent of Labor Force	6.7	6.3	6.0	——	——
Employed Persons	151,300	152,800	150,200	—1.0	0.7
Non-Ag Wage & Salaries	129,500	131,800	130,000	—1.8	— 0.4
Manufacturing	19,600	19,200	17,900	2.1	9.5
TELEPHONES IN SERVICE	238,825	252,336	249,027	— 5.4	— 4.1
CITY SALES TAX COLLECTIONS	1,577,823	1,421,549	1,697,797	11.0	2.5

BILOXI-GULFPORT **[Hancock, Harrison and Stone Counties]**	May 1982	April 1982	May 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	68,380	68,480	66,410	—0.2	3.0
Unemployed Persons	5,030	4,750	4,210	5.9	19.5
Per Cent of Labor Force	7.4	6.9	6.3	——	——
Employed Persons	63,350	63,730	62,200	—0.6	1.9
Non-Ag Wage & Salaries	53,410	54,110	53,120	1.3	0.6
Manufacturing	9,370	9,150	8,490	2.4	10.4
TELEPHONES IN SERVICE	116,619	116,363	115,008	0.0	1.4
CITY SALES TAX COLLECTIONS	601,813	505,240	574,816	19.1	4.7

[1] Preliminary

Timber Severence Tax Collections For Mississippi Counties

Source: Mississippi Tax Commission. Computations made by the Division of Business Research.

County	1980	% of State	% of Change	1981	% of State	% of Change
Adams	17,516	0.78	−26.12	18,245	0.01	− 0.04
Alcorn	8,870	0.40	−26.59	11,751	0.51	32.5
Amite	57,585	2.56	6.50	61,737	2.67	7.21
Attala	47,425	2.11	−16.79	57,142	2.47	20.50
Benton	8,282	0.37	−13.85	7,452	0.32	−10.02
Bolivar	6,094	0.27	57.39	3,202	0.14	−47.5
Calhoun	28,867	1.29	15.31	35,113	1.52	21.64
Carroll	13,242	0.59	−12.28	16,461	0.71	24.31
Chickasaw	11,953	0.53	− 3.94	16,652	0.72	39.31
Choctaw	34,963	1.56	10.50	28,887	1.25	17.38
Claiborne	21,934	0.98	− 2.94	22,644	1.00	3.24
Clarke	70,195	3.13	11.64	62,820	2.71	10.51
Clay	9,403	0.42	39.74	18,455	0.80	96.27
Coahoma	3,177	0.14	−28.56	2,690	0.12	15.33
Copiah	50,241	2.24	0.60	67,189	2.90	33.73
Covington	17,775	0.79	−23.87	22,472	0.97	26.42
DeSoto	1,880	0.08	192.38	190	0.01	−89.89
Forrest	38,769	1.73	−33.06	33,089	1.43	−14.65
Franklin	46,617	2.08	− 2.04	48,714	2.10	4.50
George	52,237	2.33	39.04	29,459	1.27	−43.61
Greene	78,917	3.51	14.96	55,380	2.39	−29.83
Grenada	10,107	0.45	4.34	11,510	0.50	13.88
Hancock	18,429	0.82	28.87	36,962	1.60	100.56
Harrison	26,793	1.19	− 3.93	27,612	1.19	3.06
Hinds	11,988	0.53	−24.82	17,736	0.77	47.95
Holmes	25,767	1.15	18.00	28,670	1.24	11.27
Humphreys	1,092	0.05	−29.87	732	0.03	32.97
Issaquena	11,752	0.52	−27.57	11,609	0.50	1.22
Itawamba	22,689	1.01	−12.05	27,127	1.17	19.56
Jackson	53,280	2.37	− 5.07	31,583	1.36	40.72
Jasper	66,421	2.96	− 3.90	65,361	2.82	1.60
Jefferson	22,953	1.02	− 1.54	26,724	1.15	16.43
Jeff Davis	29,578	1.32	14.42	32,117	1.39	8.58
Jones	51,150	2.28	− 0.96	61,196	2.64	19.64
Kemper	56,998	2.54	− 8.96	53,873	2.33	5.48
Lafayette	24,597	1.10	− 6.76	25,685	1.11	4.42
Lamar	27,735	1.24	−24.79	30,672	1.32	10.59
Lauderdale	55,813	2.49	−14.21	53,338	2.30	4.43
Lawrence	36,269	1.62	6.07	31,835	1.37	−12.23
Leake	39,346	1.75	− 4.38	42,274	1.83	7.44
Lee	4,896	0.22	36.65	5,333	0.23	8.93
Leflore	1,895	0.08	−32.44	2,673	0.12	41.06
Lincoln	43,441	1.93	− 7.94	45,663	1.97	5.11
Lowndes	6,815	0.30	96.62	7,627	0.33	11.91
Madison	23,231	1.03	− 3.86	19,235	0.83	−17.20
Marion	28,773	1.28	6.90	24,596	1.06	−14.52
Marshall	10,543	0.47	20.78	11,342	0.49	7.58
Monroe	27,562	1.23	18.04	33,104	1.43	20.11
Montgomery	20,218	0.90	26.77	31,475	1.36	55.68
Neshoba	47,986	2.14	2.16	39,901	1.72	−16.85
Newton	50,695	2.26	1.72	56,088	2.42	10.64
Noxubee	34,728	1.55	13.63	37,427	1.62	1.15
Oktibbeha	24,919	1.11	40.11	25,811	1.11	3.58
Panola	5,219	0.23	− 5.64	6,228	0.27	19.33
Pearl River	45,349	2.02	5.52	46,961	2.03	3.55
Perry	79,341	3.53	36.17	55,623	2.40	40.21
Pike	36,476	1.62	− 5.62	38,126	1.65	4.52
Pontotoc	14,932	0.67	−11.67	13,549	0.58	− 9.26
Prentiss	14,676	0.65	19.48	16,696	0.72	13.76
Quitman	530	0.02	4.54	734	0.03	38.49
Rankin	47,797	2.13	2.40	78,839	3.40	64.95
Scott	45,996	2.05	−21.24	60,760	2.62	32.10
Sharkey	2,945	0.13	1.66	5,290	0.23	79.63
Simpson	39,186	1.75	−10.33	44,679	1.93	14.02
Smith	36,869	1.64	− 9.07	49,089	2.12	33.14
Stone	33,494	1.49	−15.53	26,950	1.16	−19.54
Sunflower	221	0.01	−69.22	211	0.01	−04.52
Tallahatchie	2,462	0.11	27.83	4,031	0.17	63.73
Tate	909	0.04	11.00	1,074	0.05	18.15
Tippah	10,722	0.48	−13.31	10,527	0.45	− 1.82
Tishomingo	17,918	0.80	8.61	18,515	0.80	3.33
Tunica	4,594	0.20	366.65	5,439	0.23	18.39
Union	8,279	0.37	9.87	9,255	0.40	11.79
Walthall	15,953	0.71	−22.72	16,237	0.70	1.78
Warren	15,798	0.70	−35.31	13,231	0.57	67.50
Washington	3,480	0.15	−7.79	4,061	0.18	16.70
Wayne	73,839	3.29	8.88	62,950	2.72	−14.75
Webster	25,412	1.13	16.33	35,995	1.55	41.65
Wilkinson	47,949	2.14	6.79	38,663	1.67	19.37
Winston	53,232	2.37	24.76	51,701	2.23	− 2.88
Yalobusha	10,485	0.47	3.05	16,595	0.72	58.27
Yazoo	6,968	0.31	−37.51	7,703	0.33	10.55
TOTALS	2,245,383		− 0.15	2,316,347		1.06

1U 3255-2

MISSISSIPPI
BUSINESS REVIEW

Yearly Subscription $3.50

August, 1982

Second Class Postage Paid at
Mississippi State, Mississippi 39762

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Return Postage Guaranteed

BEST AVAILABLE COPY

Dr. Gordon Taylor

Dr. Stephen Ramocki

Gordon A. Taylor is a graduate of Western Illinois University where he received his Bachelor of Business degree. He received his MBA and Ph.D. from the University of Florida. He is presently Director of Alumni Programs at Western, but still remains active in the classroom.

Stephen R. Ramocki received his Ph.D. in Managerial Economics from the Rensselaer Polytechnic Institute. Presently, he teaches in the Management and Marketing department at the University of Wisconsin in LaCrosse.

TABLE OF CONTENTS

An Investigation Into Acceptance Levels of New Supervisors Associated with Subordinate Liking of the Successor and Subordinate Liking of the Predecessor in Comparative Work Units 3
Sales Indicated By Sales Tax Collections During June, 1982 By County (000's) 8
Producer Prices, United States, 1974-June, 1982 8
Four Critical Areas To Regard When Developing Management Information Systems 9
Indexes of Selected Mississippi Economic Indicators 13
Tourist Briefs 14
New and Expanded Industry 15
Meet The Faculty 16
State Economic Indicators 17
Business Activity By City 18
SMSA 19
Property Value of Selected Cities 9-30-79 in Dollars 20

VOLUME XLIV AUGUST, 1982 NUMBER 2

James D. McComas, Ph.D.
President, Mississippi State University

Dennis R. Leyden, Ph.D.
Dean, College of Business and Industry

Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing

Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics

Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics

Garry Smith, D.B.A.
Editorial Advisor

Oris L. Odom, II, D.B.A.
Editorial Advisor

Thomas W. Hinckle, Ed. D.
Editorial Advisor

Janis C. Bryant
Assistant Editor

Dale Adams
Secretary

Diane Dendy
Secretary

Pam Tiller
Research Assistant

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

An Investigation Into Acceptance Levels of New Supervisors Associated With Subordinate Liking Of The Successor And Subordiante Liking Of The Predecessor In Comparative Work Units

by

Gordon A. Taylor, Jr., Ph.D.

ABSTRACT

An attempt was made to determine if acceptance levels of new supervisors is associated with subordinate liking of the successor and subordinate liking of the predecessor in comparative work groups. Both simple and partial correlation coefficients between acceptance and liking questions were used to determine if there is any such association. The results of the study indicate that acceptance of the new supervisor is associated with subordinate liking of that individual and not subordinate liking of his predecessor.

SUPERVISORY SUCCESSION

Succession involves the placement of an individual into a leadership position which his predecessor has vacated due to promotion, demotion, lateral transfer, firing, movement to a job with another company, retirement, death, or any other reason resulting in his departure from the position. Succession is concerned with what happens immediately after a position is vacated and subsequently filled rather than what happens six months after the new incumbent has arrived on the job.

Supervisory succession applies to succession situations at the lowest level in the organization where the supervisor is responsible for the work efforts of non-supervisory personnel. Examples would be a foreman on a production line or an individual responsible for the work of clerks such as an office supervisor. This is to be differentiated from executive or managerial succession which is involved at levels above the first line supervisor. Paramount to the distinction between the terms "executive" or "managerial" and "supervisory" employed here is the fact that supervisors head a non-management family— the workers (1, p. 119).

> A supervisor's job differs from that of other managers because the group he supervises is different. This situation requires him to interact in an authority relationship with **two** groups: (1) workers, who are his subordinates; and (2) managers, who are his superiors. Any manager who is not a supervisor interacts primarily with **two** levels of only one group, namely, managers, who are both his superiors and his subordinates (1, p. 119).

The successor is expected to effectively handle the requirements of the position formerly held by his predecessor and perform in a manner which will satisfy those who have selected him for his new job.

SUBORDINATE LIKING OF THE PREDECESSOR AND SUCCESSOR

Successor acceptability to those he now supervises is a critical issue in determining whether or not the transfer of power from predecessor to successor will be a smooth transition. The focus of this paper concerns acceptance levels of new supervisors associated with subordinate liking of the successor and subordinate liking of the predecessor in compartive work groups. The main issue centers around whether or not successor acceptability to his subordinates is a function of subordinate liking of the successor or subordinate liking of the predecessor. There are a myriad of factors that could be involved in subordinate acceptance or rejection of a new supervisor. Such factors as subordinate frustration, subordinate satisfaction, the leadership style of the new supervisor, the origin of the new supervisor and a host of other variables could play a part in determining whether or not the successor is rejected or accepted by his subordinates.

Without minimizing the significance of the aforementioned factors, it is worth exploring whether or not a subordinate's feelings towards his previous and current boss play a role in the level of acceptance experienced by the new supervisor simply on the basis of their feelings toward that individual. If they like him he is accepted, if they dislike him he is rejected. In terms of the role of the predecessor, it is possible that subordinates will tend to reject a new supervisor if they like the previous one since they will feel he is irreplaceable. By contrast, if subordinates disliked their previous boss they may feel that anybody would be an improvement and thus will be more likely to accept the successor than otherwise might be the case.

There is ample material available which addresses the issue of employee resistance to new supervisors. Gouldner emphasizes the predecessor-subordinate relationship as a possible cause of uneasiness when a successor arrives on the scene:

> Subordinates can be friendly or unfriendly toward a successor, and what they think of him depends very much upon what they thought of his predecessor. The successor's fate at first depends less upon what he does or who he is and more upon how he is seen to compare with "Old So and So," his predecessor. If the subordinates liked the predecessor, they resent and are anxious about the successor. If they did not like him, or his methods, the successor will have a far easier time of it. (Gouldner, 1964:26).

Along the same vein, the fact that the new supervisor may not be a longstanding member of the organization can cause anxiety among his new subordinates.

> The combination of authority inherent in the successor's position and strangeness, not only socially isolates the successor who happens to be an outside man, but it simultaneously closes him off to important informal sources of information about the organization. This, in turn, slows down the process by which the successor is socialized and, therefore, reinforces his position of isolation. (Grusky, 1960:108).

Further, a new supervisor should be cognizant of the fact that many of his subordinates are quite possibly less than enthusiastic about his arrival. How does the new supervisor handle the reality that many of his assistants are still loyal to the departed predecessor? Does he try to win them over gracefully or does he ruthlessly sever them from their positions at the first sign of disloyalty; a strategy employed by William the Conqueror in the twenty years after the Battle of Hastings? As Antony Jay so succinctly points out when referring to William I, "No one before or since has more fully deserved the name of bastard. But most takeovers need a bastard if they are to be as complete and as successful as his." (Jay, 1968:23).

Back in the early 1500's Machiavelli made his feelings on succession abundantly clear when he stated, "and whoever becomes master of a city accustomed to living in freedom and does not destroy it may expect to be destroyed by it himself" (translated, Machiavelli, 1947:13). The analogy is clear for the successor: he must either do away with his predecessor's lieutenants or be done away with by them.

Kotin and Sharat provide additional insight on subordinate resistance to new supervisors when they discuss the effects of the Rebecca Myth* on a new supervisor at a state mental hospital where the departed superintendent to whom loyalty belongs is idealized and his successor is viewed with considerable suspicion and disdain by lieutenants loyal to the predecessor. (Kotin and Sharat, 1967).

Grusky further points out how the succession phenomenon can cause problems for new supervisors when he states:

> . . . . .the major available intensive studies of the process concur in documenting the fact that changes in key personnel produced at least temporary organizational anomie. Succession is disruptive to organizations because it sets the conditions for the development of new policies, disturbs the traditional norms of the organization, and promotes changes in the formal and informal relationships among members of the system. (Grusky, 1960:105).

As Gouldner points out, succession can generate considerable trauma in an organization.

> Succession often brings anxiety and tension to the old subordinates. They fear that the new broom may really sweep clean. They wonder and worry whether the successor will upset old routines and disturb old privileges and positions. (Gouldner, 1964:24).

Thus, it can be seen that the extent to which subordinates feel comfortable with and like their new supervisor can be a critical factor in determining his level of acceptability in a given work group. The information provided in this study concentrates on the key issue of subordinate liking of the predecessor and successor and the impact this has on the acceptance level of new supervisors in comparative work groups.

Material relating to the sample, questionnaire construction, and data analysis can be found in appendices A thru C.

FINDINGS

Table One, Appendix D provides the simple correlation coefficients between the acceptance questions and subordinate liking of the predecessor. Although only two of the coefficients are significant at the .05 level, these results indicate an inverse relationship between subordinate acceptance of the new supervisor and subordinate liking of the previous supervisor. Proceeding further, the simple correlation coefficient between acceptance and the combined liking questions for the predecessor is -.0737 which is significant at the .041 level. It appears that when the predecessor was well-liked subordinates were less likely to accept the successor in his new role. Table Two, Appendix D provides the simple correlation coefficients between acceptability to subordinates and subordinate liking of the successor.

It is quite clear that there is a very high correlation between the liking of the successor by his subordinates and his acceptability as a supervisor to those same individuals. In addition, the correlation coefficient between acceptance and the combined liking questions for the successor is .7345 which is significant at the .001 level. There was initial concern during the development of the proposal used as a foundation for this study that subordinates might like a supervisor and still not accept him as their legitimate leader due to a lack of faith in his judgement, ability, or support of the work group. The data in Table Two indicate that this is not the case with the individuals who were involved in this study.

It was felt that more information was needed to better explore the relationship between liking and successor acceptability so partial correlation coefficients between the acceptance questions and subordinate liking of the predecessor controlling for subordinate liking of the successor were generated. These results are found in Table Three (Appendix D).

Controlling for subordinate liking of the successor has some effect on the results. Evidence indicates that there is little connection between successor acceptability and subordinate liking of the predecessor when controlling for subordinate liking of the successor. The relationship that does exist is again negative but the levels of significance are so high that it is not possible to speculate with any support that liked predecessors will be followed by successors who will not be accepted by the work group. Furthermore, using a single acceptance and liking score results in a partial correlation coefficient of –.0553 which is significant at the .097 level. Contrast the data in Table Three to that found in Table Four where one finds partial correlation coefficients between acceptance and subordinate liking of the successor controlling for subordinate liking of the predecessor.

Table Four amplifies the notion that liking of the predecessor has little impact on successor acceptability to his subordinates. Evidence indicates that subordinate liking of the new supervisor covaries with the matter of whether or not that individual will be accepted by his subordinates. In addition, it is important to note that the acceptance and liking items used loaded independently and significantly on two different factors. Using single acceptance and liking scores reiterates this point since the partial correlation coefficient is .7344 which is significant at the .001 level.

CONCLUSIONS

Certainly liking of one's superior is not the only criteria for accepting that individual but it does seem to be of some importance. It is worth mentioning that all the groups in this study were characterized by situations where subordinate tasks were structured,

---

*"A common indication of the degree and source of workers' resistance to a new manager is the prevalence of what may be called the 'Rebecca Myth.' Some years ago Daphne Du Maurier wrote a novel about a young woman who married a widower, only to be plagued by the memory of his first wife, Rebecca, whose virtues were still widely extolled. One may suspect that many a plant manager is, to some extent, idealized by the workers even if disliked while present." (Gouldner, 1945 79).

supervisors had considerable power and there was not expectation or mandate for immediate change in the work group. Had these control variables not been present, the results may naturally have been quite different.

The preceding information supports the proposition that to some degree acceptance of the new supervisor is associated with subordinate liking of that individual. If subordinates like the individual he tends to be accepted; if they dislike the individual, he tends to be rejected.

BIBLIOGRAPHY

1. Davis, Keith. **Human Behavior at Work**. 4th edition, McGraw-Hill, 1972.
2. Gouldner, Alvin W. **Patterns of Industrial Bureaucracy**. Glencoe, IL: The Free Press, 1954.
3. ____________________, "Taking Over," **Trans-Action**, Vol. 1, No. 3 (March, 1964), 23-27.
4. Grusky, Oscar. "Administrative Succession in Formal Organization," **Social Forces**, Vol. 39 (December, 1960), 105-115.
5. Jay, Antony. **Management and Machiavelli**. New York, NY: Holt, Rinehart and Winston, 1968.
6. Kotin, Joel and Myron R. Sharaf. "Management Succession and Administrative Style," **Psychiatry**, Vol. 30 (1967), 237-248.
7. Machiavelli, Niccolo. **The Prince**. Translated by T. G. Bergin. Englewood Cliffs, NJ:Appleton-Century-Crofts, 1947.
8. Scott, William E., Jr. "The development of Semantic Differential Scales as Measures of 'Morale'," 'Personnel **Psychology**, Vol. 20, No. 2 (1967), 179-198.

Appendix A

THE SAMPLE

In order to ensure commonality in the work groups studied, three criteria had to be met before a firm was considered for inclusion in the research project. Each episode selected had to be characterized by task rigidity, strong supervisor impact, and little, if any, supervisor mandate to initiate change in the work group.

Various institutions were selected contingent on organizational receptiveness to the goals of the research effort and apparent organization compatibility with the level of task structure necessary in the work group to be studied. Specifically, access to organizations was the primary factor in determining if a firm would be included in the initial screening process.

Once an organization had been contacted and found to be potentially receptive to the project, it was necessary to determine if they expected any turnover in the months ahead among their first-line supervisors. If they did, then they were still a possible participant in the study. If not, they were eliminated from further consideration. After this step, the researcher observed the kinds of work being done to determine in a broad sense, the degree of task structure present. Any organization that was characterized by non-repetitive task assignments at the operative level was eliminated out of hand. This further reduced the pool of potential prospects since the constraint of high task structure was a critical control variable in the implementation of the study.

A member of middle management was then asked to indicate if the supervisor had considerable impact on the group he supervised and if not, these episodes were rejected as possible study groups. Finally, if it was established that the work done in a given area was repetitive, that the supervisor had considerable impact on his subordinates, and that there was to be a change in supervisors, then an informed member of management was asked if the new supervisor was expected to initiate change in his area. If not, then the organization was still considered for inclusion in the study. If so, the organization was dropped as a possible participant.

Questionnaires were then administered to subordinates and members of middle management for the remaining groups to assure control variables were, in fact, similar from group to group. The sample ultimately used in the study contained 111 episodes with a range from 2-15 subordinates and a total of 559 subordinates involved in the study. The average number of subordinates per episode was 5.036. Thirty-five organizations were used in the study with the number of episodes derived from an organization ranging from 1 to 18. There were 11 different subordinate job classifications though in 90 of the 111 episodes, individuals were either production workers or clerks.

Appendix B

QUESTIONNAIRE ADMINISTRATION

The topic of supervisory succession is a difficult one to investigate due to the very real problem of generating an adequate sample size over a specific time frame. Since succession is a continuing process that takes place over time in a less than predictable manner, it took five months to gather the data for the 111 episodes. Three separate questionnaires were used in the study. The first was used to make sure that all 111 episodes met the same control variable criteria. The second questionnaire was used to determine the level of liking for the predecessor. These questions were given to subordinates within one week after the predecessor departed to ensure they still retained a clear image of his behavior on the job. The third questionnaire which pertained to the current supervisor was administered to subordinates six weeks after the new supervisor had taken over. The decision to wait six weeks was based on the results of a pilot study that indicated this was enough time for subordinates to feel comfortable in describing the behavior of their new supervisor as well as describe whether they accepted him as their leader.

Appendix C

DATA ANALYSIS

In order to determine what questions would be used to indicate acceptance and liking, the results of questionnaires dealing with these issues were factor analyzed and the results examined. The two questions dealing with acceptance of the new supervisor were the same questions the researcher felt initially would generate a measure of acceptance and in fact these two items did load independently of any others.

1. My supervisor accomplishes what needs to be done.
2. I accept my supervisor as the leader of my work group.

All five of the questions originally thought to measure subordinate liking of the predecessor and successor did in fact load together independently of any others. The questions used to generate a measure of liking were inspired by terms used by Scott (2) in his work on employee morale and they are as follows:

1. My supervisor is fair in his treatment of his workers.
2. My supervisor is unreasonable.
3. My supervisor is unpleasant.
4. My supervisor is thoughtful.
5. My supervisor is disagreeable.

These questions were worded in the past tense when describing the predecessor. Questions 2, 3, and 5 were were reverse scored since they were worded in a negative fashion. All questions were scored on a 1-5 basis with a low score indicating low levels of acceptance and liking and a high score reflecting high levels of acceptance and liking. Both simple and partial correlation coefficients between subordinate acceptance of the successor and subordinate liking of the predecessor/successor were generated.

APPENDIX D

TABLE ONE

Simple Correlation Coefficients Between Subordinate Acceptance of the Successor and Subordinate Liking of the Predecessor

Question	Simple Correlation	Significance
1	-.0305	.236
2	-.0628	.069
3	.0674	.056
4	-.0728	.043
5	-.0912	.016

TABLE TWO

Simple Correlation Coefficients Between Subordinate Acceptance of the Successor and Subordinate Liking of the Successor

Question	Simple Correlation	Significance
1	.6857	.001
2	.5740	.001
3	.5789	.001
4	.6928	.001
5	.5632	.001

TABLE THREE

Partial Correlation Coefficients Between Subordinate Acceptance of the Successor and Subordinate Liking of the Predecessor Controlling for Subordinate Liking of the Successor

Question	Partial Correlation	Significance
1	-.0441	.151
2	-.0444	.149
3	-.0256	.274
4	-.0607	.078
5	-.0706	.049

TABLE FOUR

Partial Correlation Coefficients Between Subordinate Acceptance of the Successor and Subordinate Liking of the Successor Controlling for Subordinate Liking of the Predecessor

Question	Partial Correlation	Significance
1	.6856	.001
2	.5779	.001
3	.5800	.001
4	.6922	.001
5	.5628	.001

Sales Indicated By Sales Tax Collections During June, 1982 By County(000's)

Source: State Tax Commission

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Adams	1,471	33,745	**Hancock**	605	17,495
Alcorn	187	21,159	**Harrison**	4,183	104,116
Amite	120	2,690	**Hinds**	9,042	253,766
Attala	377	9,875	**Holmes**	311	7,187
			Humphreys	231	5,660
Benton	44	993			
Bolivar	821	22,033	**Issaquena**	7	134
			Itawamba	309	9,957
Calhoun	234	5,397			
Carroll	96	2,350	**Jackson**	2,724	69,290
Chickasaw	293	7,058	**Jasper**	277	6,289
Choctaw	85	1,904	**Jefferson**	65	1,465
Claiborne	393	23,337	**Jeff Davis**	204	4,948
Clarke	202	5,124	**Jones**	2,367	67,462
Clay	310	8,611			
Coahoma	741	18,040	**Kemper**	90	2,040
Copiah	394	9,467			
Covington	636	13,864	**Lafayette**	501	13,670
			Lamar	287	7,115
DeSoto	729	19,186	**Lauderdale**	2,329	60,907
			Lawrence	164	3,681
Forrest	2,324	63,497	**Leake**	286	6,695
Franklin	90	2,388	**Lee**	2,227	73,951
			Leflore	1,070	27,222
George	291	6,663	**Lincoln**	791	20,119
Greene	98	2,064			
Grenada	543	14,619			

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Lowndes	1,785	47,970	**Simpson**	514	12,650
			Smith	148	3,578
Madison	795	26,451	**Stone**	205	4,629
Marion	820	19,626	**Sunflower**	563	27,454
Marshall	368	8,281			
Monroe	709	19,031	**Tallahatchie**	243	5,880
Montgomery	212	5,086	**Tate**	333	7,925
			Tippah	324	13,115
Neshoba	412	10,381	**Tishomingo**	325	8,885
Newton	320	7,659	**Tunica**	152	3,609
Noxubee	179	4,683			
			Union	341	8,856
Oktibbeha	630	14,179			
			Walthall	216	5,428
Panola	554	13,624	**Warren**	1,308	30,395
Pearl River	595	13,317	**Washington**	1,694	43,898
Perry	106	2,305	**Wayne**	510	11,048
Pike	1,083	24,821	**Webster**	155	3,823
Pontotoc	266	6,191	**Wilkinson**	188	5,087
Prentiss	376	10,067	**Winston**	347	8,046
Quitman	152	3,544	**Yalobusha**	199	4,761
			Yazoo	706	28,247
Rankin	1,683	48,704			
Scott	452	11,038	**State Total**	59,267	1,595,763
Sharkey	150	3,356			

PRODUCER PRICES, United States, 1974-June, 1982

[1967=100; monthly data seasonally adjusted]

Period	Finished goods								Intermediate materials			Crude materials		
	Total finished goods	Consumer foods	Finished goods excluding consumer foods					Total finished consumer goods	Total	Foods and feeds [1]	Other	Total	Foodstuffs and feedstuffs	Other
			Total	Consumer goods			Capital equipment							
				Total	Durable	Nondurable								
1974	147.5	166.9	139.3	138.6	125.9	146.8	141.0	149.3	162.9	200.2	159.5	196.1	189.4	208.9
1975	163.4	181.0	156.2	153.1	138.2	163.0	162.5	163.6	180.0	195.3	178.6	196.9	191.8	206.9
1976	170.6	180.4	166.1	162.6	144.5	174.8	173.4	169.7	189.1	185.3	189.4	202.7	190.2	228.5
1977	181.7	189.9	177.7	174.3	152.8	189.3	184.6	180.7	201.5	190.5	202.3	209.2	192.1	245.0
1978	195.9	207.2	190.7	186.7	166.9	200.0	199.2	194.9	215.6	203.1	216.5	234.4	216.2	272.3
1979	217.7	226.2	213.3	211.5	183.2	231.3	216.5	217.9	242.2	226.1	244.4	274.3	247.9	330.0
1980	247.0	239.5	247.8	250.8	206.2	283.9	239.8	248.9	280.3	252.6	282.3	304.6	259.2	401.0
1981	269.8	253.6	273.3	276.5	218.6	319.6	264.3	271.3	306.0	250.3	310.1	329.0	257.4	482.3
1981: June	270.3	254.5	273.7	277.1	218.9	320.4	264.1	272.0	306.9	255.1	310.8	336.9	265.0	490.8
July	271.3	256.6	274.3	277.4	218.5	321.2	265.6	272.9	308.1	251.0	312.3	337.6	264.9	493.2
Aug	272.1	256.8	275.2	277.9	219.6	321.5	267.4	273.3	309.7	251.4	314.1	334.4	261.9	489.7
Sept	272.6	255.5	276.4	279.3	219.5	322.9	267.8	273.9	309.8	242.5	314.8	328.4	252.0	492.2
Oct	274.2	255.0	278.6	281.4	222.5	325.3	270.5	275.2	309.7	238.3	315.1	322.7	246.1	486.9
Nov	275.5	253.2	280.9	283.8	224.5	328.0	272.5	276.3	310.6	233.6	316.3	318.1	240.8	483.9
Dec	276.3	253.0	281.9	284.6	224.7	329.5	274.1	276.9	311.1	233.2	316.9	313.6	234.1	484.6
1982: Jan	277.8	255.9	283.0	285.6	224.4	331.3	275.4	278.5	312.0	237.8	317.6	319.3	244.5	480.3
Feb	277.3	257.1	282.0	284.7	223.1	330.6	274.3	278.2	311.1	238.9	316.5	317.3	246.1	470.6
Mar	276.5	256.7	281.1	283.0	223.9	327.0	275.5	276.8	310.4	237.5	315.8	314.6	246.7	461.0
Apr	276.7	260.8	280.1	281.1	223.4	324.3	276.5	276.8	308.5	243.2	313.3	320.2	255.4	460.3
May	276.8	262.7	279.6	280.1	224.3	321.8	277.7	276.6	308.8	247.3	313.4	327.3	262.2	468.0
June	279.7	263.9	283.0	283.9	226.9	326.5	279.9	279.7	309.7	247.0	314.4	327.0	260.5	470.7

[1] Intermediate materials for food manufacturing and feeds.

Note.—Data revised for February 1982.

Source: Department of Labor, Bureau of Labor Statistics.

Four Critical Areas To Regard When Developing Management Information Systems

By:

Dr. Stephen P. Ramocki

INTRODUCTION

Management Information Systems (MIS) have received much emphasis during the last decade, and all indicators point toward their increased importance for the future. As these systems represent recent developments in many areas, there exists confusion regarding the optimal way to implement them. The problems range between the system's conceptualization to its more sophisticated methodology. Unless these problems are resolved information systems are likely to suboptimize relative to their potentials. The purpose of this article is to point out four areas that in the author's judgement provide much opportunity for MIS improvement. The areas are, (1) the conceptualization and planning stage of the MIS, (2) behavioral implications of the MIS, (3) the data base-computer science interaction with information, and (4) technology, managerial capacity, and the workplace. Actually, these areas are anything but independent, but for the sake of discussion they will be separated.

Area One - Conceptualization and Planning Stage of the MIS

This is perhaps the most crucial area because its implications extend to the other areas as well. The definition of a MIS may not even be clear, which fails to say much for sound conceptualization, e.g., a structured, interacting complex of persons, machines, and procedures designed to generate pertinent information from intra and extra-firm sources. . .(Uhl, 1978). From the beginning this type of definition is elusive and confusing. The author has digested the sophisticated definitions to the following. A MIS is any system which allows managers to make timelier and better decisions with special emphasis towards the future.

Every system is unique and eventually must be designed to serve its particular function. However, in the initial stages of development adequate time should be spent assessing factors such as historical decisions, relationships among organizational information requirements, and bottom line ideas. The object is to employ enough creative thought so that the risk of omission is minimized (Henderson and Nutt, 1975). Every attempt should also be made to assess future informational requirements in the conceptualization stage; and remember that data and information are not the same. Management must make data informational (Carter and Silverman, 1980). If adequate care is not taken in this stage one runs the risk of assimilating an impressive array, or file, of meaningless numbers. Such was the case with the bright, young, MIS developer who cleverly constructed a system that no one else had been able to accomplish. Yet when asked by a manager the practical question of, what repercussions would result from the introduction of a competitor's product, the MIS expert drew a blank. The system had been data and retrieval oriented and not information and decision oriented (Little, 1979). The point is that the MIS's conceptualization stage is the time to ensure system relevancy.

The previous idea that initially a system should be broadly rather than narrowly defined establishes the basis for this problem area. Although each system is unique and must eventually be fine-tuned to achieve its goals, there is danger in over-structuring the MIS before it is fully developed conceptually. This point should have been exemplified by the previous example. Yet this type of fate is pre-ordained when a MIS developer starts out thinking in terms of sophisticated computer hardware and software. Given this backward approach the issue becomes one of adapting the MIS around available technology, as opposed to the more sensible approach of deciding what the system should accomplish, and then considering the technical requirements. Once conceived the system might operate for a period of six months to a year without any sophisticated computer technology getting in the way. This could be accomplished by storing, retrieving, and disseminating information from manual files, etc. During this important development phase the company learns first hand exactly what form the advanced system should assume. This approach truly puts the horse before the cart and avoids the trap which is so luring, yet so potentially damaging. Closely related to the conceptualization phase are the behavioral implications which must be considered.

Area Two - Behavioral Implications of the MIS

It is all too easy to forget about the behavioral considerations which should be addressed in MIS development. You cannot develop a new system, simply thrust it upon people, and expect to achieve great results. The potentials of systems lie in the interaction of information and people who are making decisions. The system should be **user oriented** if it is to work. It will have a better chance of being user oriented if the ultimate users are involved throughout the development process. Not only will the system actually be used, but it will come closer to accomplishing what it should. Everett Rogers' (1962) advice is useful in this context, as he says that successful implementation of innovations is dependent upon five factors - the perceived relative advantage of the innovation (people should realize the advantage), the degree of complexity involved (the less complex the better), degree of compatibility (the less different from the present method the better), degree of divisibility (can the innovation be implemented in stages; the more stages the better), and word of mouth (the more an innovation is positively discussed the more it tends to be accepted).[1] The point is that when the ultimate system users are consulted, probed, and involved right from the conceptual stage onward, Rogers' factors will be considered. Personnel will understand the new system's advantages and it will not seem overly complex. They will feel comfortable with the system as they gradually observe it unfold, and they will tend towards positive as opposed to negative comments.

As an example the author is currently consulting for the La Crosse Telephone Company (La Crosse, Wisconsin), a subsidiary of Century Telephone Enterprises, Inc. (Monroe, Louisiana). Before the recent Bell divestiture resulting from a government suit against AT & T, the telephone industry never really had to be marketing oriented. La Crosse Telephone decided to overhaul the entire marketing program to prepare for competition and to explore market opportunities. An important subset of this vast undertaking involves an information system. The technical details of the MIS have not yet been fully addressed. However, it was stressed from the onset that the people responsible for implementing the system would also provide major input in its development. (This goes for the entire marketing program as well.) As a result of this input (from other departments as well) many ideas and questions, relating to information and use of information, have been generated. Because the employees have been involved from the start, there is little doubt in my mind that the transition from the present to the future system will be a smooth one. Again, the most crucial behavioral ingredient is in system development is **real** employee involvement (Katch, 1978).

Although crucial, employee involvement alone is not sufficient. Top management support and involvement are necessary to achieve optimal information flow throughout the organization. In a study reported by Cerullo (1979) only thirty-six percent of top managements were actively involved in the MIS from the beginning. Top management should be involved so that the system can be geared to the goals and objectives that dictate company strategy (Kanter, 1979). No system can accomplish that without upper management involvement. At the La Crosse Telephone Company upper management offered support and assumed an active interest right from the beginning.[2] Thus, the author foresees an information system which will facilitate the attainment of company goals, be understood and used by those responsible for its implementation, and be flexible enough to change in order to accommodate the company's marketing needs.

Area Three - The Data Base and Computer Science Interaction with Information

One hears the term "data base management" all the time. Data base management and information systems are not synonomous at all. In fact data does not become informational until a human being causes the transformation. The problem is that computers and data base systems deal with **data** and not **information**. The problem is aggravated by the fact that the people most familiar with computer systems have relatively poor understanding of the managerial applications that the MIS is supposed to provide. Computer oriented people are very enthusiastic over novel formats and hard systems, but they often lack insight as to true information and to the effective use of such information. They essentially try to force fit structured data files to the unstructured information which is the essence of a good MIS (Connell, 1981). Data files are poor substitutes for sound business knowledge. In this regard the object is to eliminate stacks of computer printouts (a manager will probably shuffle into an unread file or better yet, a waste basket), and to produce a compact set of digestible, meaningful, useful information. Although generalization can be wrong, basically computer oriented personnel are not the ones to be given the responsibility of MIS development. Rather they can join the team as the MIS progresses well beyond the initial development phases to the more sophisticatedly applied stages. A possible solution to this problem is to integrate computer specialists into the organization's main stream so that they become more behaviorally and managerially oriented.

There are cases where computer people do not require as much managerial savvy and this can be given more direct reponsibility to implement the MIS. This situation arises when the system to be developed is clearcut, well defined, and highly structured. This could become somewhat the case after a system has progressed from early development to various applied stages.It still depends though upon the degree of technological interaction between system functionality, e.g. decision making, and programming capability. Richard Daft (1978) refers to four major technology categories in this regard. First are the **programmable** technologies, characterized by little task variety and straight forward computational requirements. Second are the **technical-professional** technologies, which entail task variety but still resort to a standard store of knowledge. Third are the craft techniques, described by tasks requiring experience, wisdom, and intuition. Fourth and most difficult involve the **research** technologies, characterized by high task variety with enough ambiguity so that the way to explore the problem situation is not at all obvious. Unfortunately, many technologies fall into the craft and research areas and do not lend themselves to computerization.

An excellent example of a programmable or technical-professional technology transfer is depicted by ITT's automation of its cost accounting system (Karchner, 1980). A well conceived (manual timecard, material transaction, invoice, shop order, shipping ticket, etc. system was automated and successfully implemented within a one year period. This was no small task and involved a tremendous amount of coordinated effort. Had there not been an initial system to parallel, however, and had the job requirements been more unstructured, coordination problems would have been much more severe and the goal of automation much more elusive. Again, this points to the extreme importance of system conceptualization. Systems must be well conceived before they have half a chance to become successfully programmed. At this stage the computer whizzes can become valuable. Still it is important for systems developers to realize which technologies are programmable and if so at what stage of development should the programming begin.

Area Four - Computer Technology, Managerial Capacity, and the Workplace

As the previous example suggests, after the MIS goes through the proper conceptual and early applied stages, the needs of the system will probably appeal for some sophisticated technoligical support. Appeals are then made to the computer scientists and their cores of hard technology. Usually they both exist in a common location removed from the organization's decision making roles. Although there are practical reasons for this, the situation tends to provincialize the technical and decision making functions, thus contributing to many of the previously discussed problems. The author terms this condition the "orioles nest syndrome". Figure 1 portrays this situation.

FIGURE 1
THE ORIOLE'S NEST SYNDROME

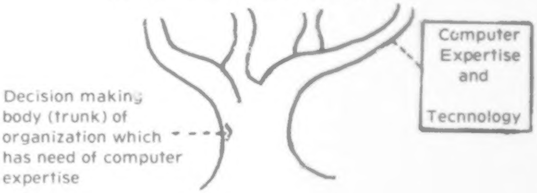

Computer Expertise and Tecnnology
Decision making body (trunk) of organization which has need of computer expertise

Figure 1 depicts a specialized, valuable computer technology which has not been integrated into the decision making framework of the organization. Like an oriole's nest it sits upon the very end of a limb, quite removed from the rest of the branches which represent the organizational mainstay. The point is that the computer technology must be brought to the heart of the organization, to the office, to the users, to the decision makers whose decisions ultimately will determine MIS effectiveness. This integration has been slow in coming because many companies lack people with overall general insight into the potential interactions among various parts of the organization, and of course because the computer field is itself a specialized one. The situation reveals that we have drastic need for the "generalist specialist" - managers who possess many skills (including computer skills) and are knowledgeable about a wide scope of company concerns and opportunities. It is also obvious why this ideal is so difficult to achieve, given today's specialized fields and technologies. Nevertheless, somehow steps must be taken to more closely align the computer technology within the organization. Perhaps it is the responsibility of computer personnel to market their technology to the necessary parts of the company. There is a tendency (in the author's experience) for computer personnel to think, "Here is the technology you need; now you come over and discover how and when to use it."[3] Of course this integration should be a two way street, but the diffusion process can occur faster if computer personnel reach out and extend their understanding to potential users, who are often threatened and relatively ignorant of the possible benefits. However, computer specialists need an appreciation of the broader, decision making functions of the company before they can effectively accomplish this. So again I emphasize the "generalist specialist" necessity, at least to a workable degree. Computer people must stop tickling themselves with the state of their art and coordinate their expertise within the decision making framework. The computer only serves a useful purpose if it is regarded as a means to a goal and not as an end in itself. This concept has been given lip service for years, but the actual technology transfer has been far too slow in coming. If computer specialists would receive their primary satisfaction from integrating their technology (even in watered-down fashion by their standards) with the decision making branches of the organization, then the MIS which can benefit from computer capacity will come closer to attaining full potential.

The previous thought represents a huge order because it is replete with implications stemming from the "generalist specialist" concept. As previously mentioned managers must also become more versatile with computers. The problem here is that it is actually far easier to upgrade computer technology and computer skills in general than it is to upgrade managerial competence. There is a gap in the growth rates between managerial and computer capability that appears to be widening. The obvious but difficult solution is for companies to bridge this gap by increasing managerial competence. It is extremely important that an organization balance its computer and managerial capabilities. The advanced stages of MIS development will be inefficient if such is not the case, because there will be untapped potential on one side or the other. A company might set up a function specifically to maintain this proper balance.

Some Final Thoughts

It was mentioned earlier that many system are not readily programmable. The irony is that, aside from the efficiency gained from the computerization of busy work, the systems which hold the most potential decision making benefit are those which require the highest levels of creative conceptualization. Two quick examples will demonstrate. There will be much efficiency (time, accuracy, etc.) resulting from an automated payroll system. But a system which helps a company decide which new products will be profitable, if introduced, is much more valuable to the company's long run success. Of course the latter requires far greater managerial knowledge for which the computer alone is a poor substitute. During the seventies the data processing function grew dramatically. In the process MIS managers spent so much time attempting to understand the latest equipment and methodology that many top managements concluded that too many MIS managers understood technology but were unable to meet companies' real information needs (Lauer and Sbarbaro, 1981).

It should be fairly obvious at this point that MIS development is a full time job which requires coordinated knowledge of company activity, which probably means pooled knowledge. There is a conservative tendency to try to economized by appointing a committee, etc. to develop the MIS. This approach seldom works well. The information system must exist as a functional area with one or more people directly involved. From there, organizational support and cooperation are still essential. The MIS itself can be a candidate for the "oriole's nest syndrome" and this must be avoided at all costs, as it would defeat the entire purpose of maximizing information flow to ensure better decisions. Because the MIS seeks to enhance important information flow, the people responsible for its development should be sensitive to organizational needs, and educationally prone. I say educationally prone because the organization is in need of more "generalist specialists" and education along with exposure within the company are essential ingredients to accomplishing this goal. The personnel in charge of this function should be the spark plugs that instigate the required organizational interaction which any successful MIS relies upon. This could point to the "in house classroom." After all, can companies afford in the long run not to be involved with education?

My final thrust reverts to the conceptualization of the MIS. Any system to be effective must be designed with its goals in mind. It is absolutely essential above all else that the system's goals and functions be carefully defined and kept in the forefront during the entire developmental process. Anything, including overbearing technology, which fails to contribute to the system's goals must be filtered out of the MIS. The result should be a practical, workable system which provides real decision-making information to its users.

Footnotes

[1] From the author's experience paying attention to these five factors goes farther towards ensuring the optimal use of new systems that all other behavioral concepts combined.

[2] Credit is due Mr. Gary Perleberg, Vice President and Division Manager of La Crosse Telephone Company, for realizing the necessity of upgrading the company's marketing function. The author would also like to thank Mr.Perleberg for allowing him to use this example.

[3] Universities are certainly no exception to this observation, and possible represent the best example.

BIBLIOGRAPHY

Carter, John C. and Fred H. Silverman (1980), "Establishing a MIS," **Journal of Systems Management**, (January), 15-21.

Cerullo, Michael J. (1979), "MIS: What Can Go Wrong," **Management Accounting**, (April), 43-48.

Connell, John J. (1981), "IRM vs. the Office of the Future," **Journal of Systems Management**, (May), 6-10.

Cox, Donald F. and Robert E. Good (1967), "How to Build a Marketing Information System," **Harvard Business Review**, (May-June), 145-154.

Daft, Richard L. and Norman B. MacIntosh (1978), "A New Approach To Design and Use of Management Information," **California Management Review**, 21 (Fall), 82-92.

Diebold, John (1979), "Information - Your Most Vital Asset in The 1980's", **Director**, (February), 41-44.

Fiegenbaum, Donald S. (1979), "Effective Management Information Systems For Control," **Journal of Systems Management**, 30 (October), 18-21.

Greene, A.M. (1980), "MIS Responds To Today's Company Needs," **Iron Age** (March), 8-8.

Gross, Andrew C. and Samuel A. Wolpert, "New Information Technology Impacts Business Hierarchy," **Infosystems**, 26, 128-129.

Henderson, John C. and Paul C. Nutt (1975), "In the Design of Planning Information Systems," **Management Review**, 13 (October), 774-785.

Kanter, Jerome (1979), "Putting Management Into MIS," **Infosystems**, 26 (December), 48-50.

Karchner, Quentin L. (1980), "How One Plant Automated Its Collection of Data," **Management Accounting**, (September), 45-48.

Katch, David (1978), "What Is a MIS," **Infosystems**, 25 (June), 94.

________________, (1978), "Budging the MIS Gaps," (July), 56.

________________, (1978), "The Making of MIS-Conclusions," (August), 54.

Lauer, Peter H. and Richard D. Sbarbaro 1981), "MIS Executives Face Changing Times," **Financial Executive**, (August), 22-26.

Little, John D. C. (1979), "Decision Support Systems for Marketing Managers," **Journal of Marketing**, 43 (Summer), 9-26.

Rogers, Everett (1962), **Diffusion of Innovations**, The Free Press,New York.

Swanson (1974), "Management Information Systems: Appreciation and Involvement," **Management Science**, 21 (October), 78-88

Uhl, Kenneth P. (1978), "Marketing Information Systems" from **Marketing and Administrative Action** by Britt and Boyd, Jr., McGraw-Hill, 1978, 411-223.

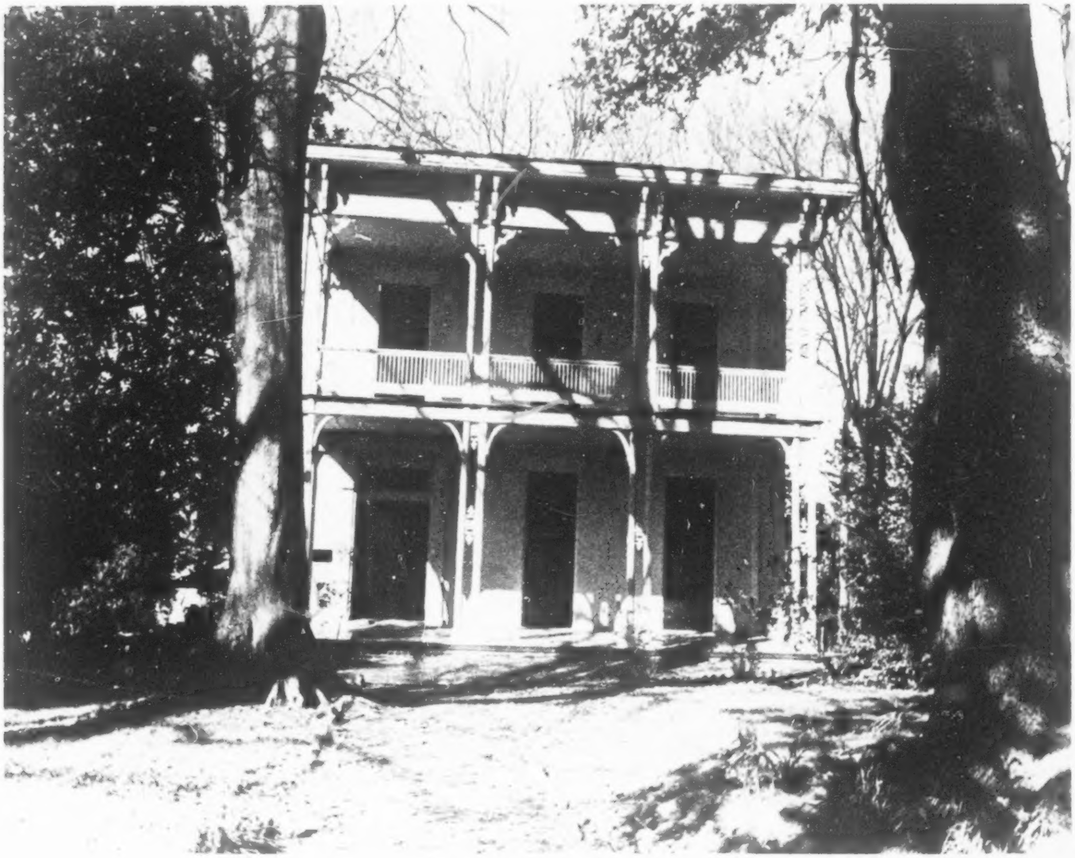
INDEXES OF SELECTED MISSISSIPPI ECONOMIC INDICATORS

[Seasonally Adjusted]

1969=100

Indicator	June 1982	May 1982	June 1981
Retail Sales	158.9	159.0	217.7
Electric Sales		208.0	
Telephones in Service	228.3	230.0	229.7
Gasoline Gallonage	151.1	166.0	133.4
Loans of Savings & Loan Institutions	80.5	73.7	135.9

Tourist Briefs



McRaven

Vicksburg, Mississippi

McRaven is an architectural record of the early history of Vicksburg, showing the various influences to which the thriving river town was exposed.

The back section of the home, built when Vicksburg was first founded, is a typical frontier style cottage belonging to the original Newitt Vick plantation. The original plaster in this section is made of marble dust, sugar, molasses, and horsehair and stained with blueberry dye. This section is furnished with original Vicksburg frontier furniture. The original brick floored kitchen, though attached to the house, has only an outside entrance. It is furnished with primitive kitchen utensils and the original 1854 ice box.

In 1836 the property was purchased by Stephen Howard, the sheriff of Vicksburg, from the Vicks. The middle section of McRaven was then added to the existing 1825 cottage. This addition contained the family room and master bedroom of Howard, all done in pure Greek Revival architecture common to

Southern Creole influence, and furnished with period 1840 furnishings.

In 1849, built as a Philadelphia Townhouse, the third and final section of the home was added by a new owner, John H. Bobb, whose portrait still hangs in the parlor. This section is built in the higher style Greek Revival architecture with Italiante influences.

The entrance is dominated by a lovely walnut flying wing staircase which leads to the upstairs back gallery and then upward to the master bedroom and nursery.

The nursery contains the original antique toys belonging to the children along with a handmade girl's baby buggy made by one of the owners for his daughters.

Surrounded by the original plaster medallion the handblown candle light still hangs in the foyer over a portrait of General Robert E.Lee during the Civil War in needlepoint.

The parlor is a perfect setting of the Civil War era containing many historical furnishings of the early Victorian period in the Old South.

The beautifully carved furnishings are climaxed with a magnificient rosewood square grand piano with mother-of-pearl keys. It originally graced the ballroom of a river steamboat belonging to Captain J. M. White of New Orleans.

The lovely historical strolling garden surrounding McRaven containing many of the original plantings of 1850 including boxwoods, camellias, magnolias, and azaleas, as originated by John H. Bobb, the builder of the 1849 section. In 1864, after Mr. Bobb had completed rebuilding the home because of extensive Union cannon damage, he was brutally murdered on the property by Union occupation soldiers after demanding they leave his gardens. This was the first recorded act of violence against the civilian populace of Vicksburg by the Federal occupation troops after the surrender of Vicksburg.

NEW AND EXPANDED INDUSTRY

Town	Firm	Product	No. of Employees
NEW			
Clarksdale	**H & H Pump**		19
Cleveland	**Runyon Asphalt**	Asphalt Products	
DeSoto County	**True Temper Sports**	Wooden Golf Club Heads	35
	Independent Steel Cast	Wax Mold Metal Castings	125
Greenwood	**C.A.E. Plastics**	Injection Molded Plastic Parts for Auto Industry	45
Leland	**South Central Tractor Parts House**	Used Tractor Parts	25
Sardis	**OMC Products**	Hygiene Inc.	
Vicksburg	**Interstate Nuclear Service**	Laundry	25
Yazoo City	**Vanco of Yazoo City**	Computer Components	50
	Roberts Mfg. Co.	Surgical Garments	50
EXPANDED			
Clarksdale	**Gator Mills**		
Cleveland	**Color Tile**		
	Cleveland Rice Mills		
Grenada	**Memphis Hardwood Flooring**		
Hamilton	**Kerr-McGee Chemical**	Sodium Chlorate	10
Houston	**Dixieland Mfg. Co.**	Living Room Suites	50
Rosedale	**Janoush Marine**		70
Vicksburg	**Ergon, Inc.**		29
Yazoo City	**Yazoo Industries**		90

MEET THE FACULTY

Dr. Thomas J. Luck

Mississippi Chair of Insurance

Since his appointment last July as Chairholder of Lutken Mississippi Chair of Insurance, Dr. Thomas Luck has actively worked with students and the insurance industry. Allowing the two vocations to work together, students receive practical field exposure while the insurance business meets potential agents.

Having had experience in the field and the classroom himself, the Hossier state native comes to Mississippi State University from Cameron,Missouri where he was senior Vice-President and General Manager of Cameron Mutual Insurance Company. There he headed all functions of a thirty million dollar business which sold multiple line property and casualty insurance.

His teaching experience ranges from guest lecturer at the Wharton School of Business, graduate courses at Illinois State University and insurance ses at Drake University.

He holds membership in Phi Kappa Phi Honorary Society, Beta Gamma Scholastic Honorary, American Risk Insurance Association, American Academy of Management. He is also chairman of the research committee for the National Association of Independent Insurers and educational consultant for the Academy of Life Underwriting.

Dr.Luck is author of **Life Insurance Financial Management and Personnel Audit and Appraisal**. He is listed in Who's Who in Insurance, Who's Who in Finance and Industry, American Arbitration Association Panel of Labor Arbitrators and Directory of American Scholars.

Dr. Luck and his wife, Betty, have three grown children. Tom is a flight surgeon for the U.S. Navy, Betsy teaches art and Jane is in data processing for the Indianapolis Life insurance Company.

STATE ECONOMIC INDICATORS

Indicator	June 1982[1]	May 1982[2]	June 1981[2]	Per Cent Change	
				One Month Ago[3]	One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	936,100	968,400	969,300	— 3.34	— 3.43
Non-Ag Employment	793,500	805,000	821,900	— 1.43	— 3.46
Mining	12,900	12,800	13,000	0.78	— 0.77
Contract Construction	39,200	39,700	43,700	— 1.26	—10.30
Manufacturing	210,400	210,200	225,300	0.10	— 6.61
Transportation and Public Utilities	40,400	40,400	40,600	0.0	— 0.49
Wholesale and Retail Trade	162,800	162,600	164,600	0.12	—01.09
Finance, Insurance and Real Estate	33,100	33,000	33,200	0.30	— 0.30
Service	118,600	121,600	119,500	— 2.47	— 0.75
Government	176,100	184,700	182,000	— 4.66	— 3.24
Unemployment Rate (Per Cent Labor Force)	11.6	10.0	9.1	——	——
Average Weekly Earnings in Manufacturing (Dollars)	252,800	248,320	237,210	1.80	6.57
Average Hourly Earnings in Manufacturing (Dollars)	6,400	6,400	5,960	0.0	7.38
Average Weekly Hours in Manufacturing	39,500	38,800	39,800	1.80	— 0.75
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,453	2,726	2,642	—10.0	— 7.15
Gasoline Delivered to Dealers (gals.)[6]	116,019	130,594	104,444	—11.16	11.08
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[7]	13,400	11,300	20,800	18.6	—35.6
Construction Loans	2,000	1,900	2,100	52.6	—47.6
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[8]	2,103,629	1,629,336	1,971,454	29.1	6.7
Telephones in Service (Number)[9]	1,514,096	1,526,406	1,523,517	— 0.8	— 0.6
RETAIL SALES ($000's)[10]	1,373,794	1,450,657	1,394,206	— 5.30	— 1.46

Indicator	March 1982	February 1982	March 1981	Per Cent Change	
				One Month Ago	One Year Ago
AGRICULTURE ($000's)[11]					
Total Cash Receipts from Farm Marketings	122,572	128,469	112,448	— 4.6	9.0
Cash Receipts from Marketing Livestock	76,163	67,202	80,250	13.3	— 5.1
Cash Receipts from Marketing Crops	46,409	61,267	32,198	—24.3	44.1

[1] Preliminary

[2] Revised

[3] Percent change calculated with revised figures; not comparable with previously published data.

[4] Mississippi Employment Security Commission

[5] State Oil and Gas Board for February

[6] Mississippi Motor Vehicle Comptroller

[7] Federal Home Loan Bank of Little Rock

[8] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority

[9] South Central Bell Telephone Company

[10] Mississippi Tax Commission

[11] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month June	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month June	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month June	Per Cent Change Month Ago	Per Cent Change Year Ago
Aberdeen	10,006	19.1	19.2	42,549	—0 1	—10.0	51,851	12,400	41,900
Baldwyn	4,681	—0.8	—0.9	21,943	—3.8	1.6	—	— —	'88
Batesville	9,255	—0.4	0.8	60,028	10.7	4.2	356,250	16,000	106,600
Bay Springs	— —	— —	— —	23,820	4.2	—4.8	— —	— —	— —
Bay St. Louis	14,582	0.1	6.0	38,348	—1.0	9.3	— —	— —	— —
Belmont	2,357	—1.7	—0.3	8,888	—3.2	—21.6			
Belzoni	5,080	—1.4	—0.4	26,117	0.0	—21.0	51,800	22,000	17,700
Biloxi	45,758	—1.7	—0.9	284,763	—3.3	8.0	1,682,110	1,379,171	533,578
Brandon	11,479	—0.5	1.8	41,938	15.7	28.3	— —	— —	— —
Brookhaven	19,337	—0.5	20.3	110,201	—14.5	1.6	123,500	154,555	303,450
Brooksville	1,345	—0.7	1.9	2,603	6.8	55.9	— —	— —	— —
Canton	11,113	—0.7	0.2	60,355	—2.4	—6.3	4,635	50,050	148,022
Carthage	7,430	—21.5	—1.3	39,756	2.5	1.1	36,500	23,000	52,500
Charleston	4,181	—0.8	—1.8	17,008	—2.4	4.5	— —	— —	— —
Clarksdale	20,275	—1.1	—3.5	110,770	—13 8	3.9	— —	— —	— —
Cleveland	13,430	—0.4	—2.4	95,230	—6.7	—1.8	— —	— —	— —
Collins	4,778	—0.1	2.5	48,373	77.2	14.0	— —	— —	— —
Columbia	16,360	—0.8	0.7	112,907	0.3	33.6	315,000	33,000	627,000
Columbus	33,478	—1.0	—1.5	228,283	—10.6	4.9	230,647	4,880,211	232,959
Corinth	20,711	—1.4	—2.7	113,496	5.7	4.1	257,400	188,240	381,793
Crystal Springs	6,003	—0.6	0.4	33,782	23.4	0.0	12,700	45,600	48,100
Drew	2,920	—0.8	5.2	8,756	—21.3	—14.0	— —	— —	— —
Edwards	1,716	—1.0	—1.6	3,381	5.0	—7.9	— —	74,900	30,000
Ellisville	4,015	—0.2	—0.5	16,045	6.2	0.7	— —	— —	— —
Eupora	4,474	—0.7	0.2	19,069	20.3	1.2	— —	— —	— —
Fayette	3,383	—1.2	—0.5	8,699	—8.2	—12.8	— —	— —	— —
Forest	6,946	—0.4	34.7	52,672	8.2	—0.5	194,800	— —	— —
Greenville	36,899	—1.3	—2.0	235,423	—9.0	—4.8	— —	— —	— —
Greenwood	23,557	—1.0	—3.2	149,717	—6.8	—2.5	704,000	275,280	116,370
Grenada	14,293	—1.0	—2.2	85,065	2.2	1.7	223,000	297,000	382,000
Gulfport	63,455	—1.1	0.5	280,605	—4.7	7.4	3,055,537	1,266,360	1,953,230
Hattiesburg	61,280	—0.7	0.2	353,895	—9.2	6.9	2,789,060	918,390	1,475,714
Hernando	7,489	—0.7	0.9	22,501	—8.8	—6.8	34,000	109,565	38,500
Hollandale	3,379	—0.5	0.1	12,354	—17 2	—12.6	4,450	19,500	13,300
Holly Springs	7,723	—8.5	0.8	41,325	—7.8	9.4	84,000	7,500	100,000
Houston	5,709	0.0	—0.2	30,370	—3.4	3.0	60,700	42,500	75,000
Indianola	7,909	—0.4	—1.2	59,990	—13.6	—3.4	— —	— —	— —
Iuka	5,456	—2.4	—6.3	26,400	—4.5	—3.4	— —	— —	— —
Jackson	229,220	—0.7	—0.6	1,437,751	—8.6	—3.5	6,959,409	6,412,551	7,579,911
Kosciusko	9,340	—0.8	—2.3	53,689	1.0	8.1	112,600	53,000	102,500
Laurel	35,934	—1.0	0.2	324,236	—8.0	—11.1	398,035	251,294	1,466,656
Leland	5,331	—0.4	0.3	19,894	—6.0	—0.8	30,575	61,500	76,685
Lexington	4,948	—1.0	1.5	19,936	2.4	4.6	— —	— —	— —
Louisville	10,663	—0.8	—1.0	54,347	—9.1	8.5	114,024	130,100	— —
Lucedale	8,566	—0.2	—0.0	44,219	47.9	16.4	600,700	10,000	10,000
Lumberton	2,943	—1.1	—0.1	8,245	—2.6	—12.2	— —	— —	— —
Macon	3,793	—1.2	0.5	16,799	—3.4	9.0	— —	— —	— —
Magee	5,549	—0.3	1.7	51,907	23.2	26.5	— —	— —	— —
Magnolia	4,343	—1.5	—0.8	8,937	—11.1	3.6	192,000	21,500	93,100
Marks	4,383	—1.4	—3.3	16,001	—0.4	—5.0	— —	— —	— —
McComb	20,188	—1.0	0.1	129,389	—10.7	7.7	97,575	180,600	252,230
Meadville	— —	— —	— —	4,784	—6.7	—3.0	— —	10,000	— —
Mendenhall	6,730	—1.0	1.4	20,917	11.2	3.7	— —	9,000	700
Meridian	47,179	—1.2	—2.7	353,681	—6.9	2.8	1,062,221	608,613	937,193
Monticello	5,112	—0.5	2.3	22,010	16.8	14.7	32,000	65,000	38,000
Morton	3,665	0.1	1.0	18,350	—0.6	—0.4	— —	— —	— —
Moss Point	16,757	—0.8	2.1	47,331	—24.2	2.2	248,860	151,799	210,848
Natchez	30,766	—1.0	1.0	229,983	—19.6	10.3	385,964	261,100	618,303
New Albany	11,447	—0.7	—0.3	53,434	—4.2	—0.4	67,615	111,641	175,000
Newton	4,180	—1.1	0.6	25,952	9.7	8.1	409,000	98,000	55,000
Ocean Springs	15,925	—1.1	—1.2	75,652	11.2	3.1	— —	— —	— —
Okolona	3,437	0.4	—1.1	15,654	14.1	0.4	— —	— —	— —
Oxford	20,731	—0.3	—0.8	78,889	—13.4	2.2	58,727	142,550	69,626
Pascagoula	37,633	—0.4	3.8	206,206	—6.8	9.9	— —	569,806	680,325
Pass Christian	5,900	—0.5	3.8	14,067	9.9	14.1	80,050	1,081,063	104,382
Philadelphia	11,833	—0.7	—0.0	54,319	—1.9	8.2	— —	— —	— —

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month June	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month June	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month June	Per Cent Change Month Ago	Per Cent Change Year Ago
Picayune	16,355	−0.4	1.3	84,239	− 6.8	6.3	333,509	150,400	211,000
Pontotoc	9,537	−1.0	−0.2	41,039	10.2	14.7	——	——	——
Poplarville	4,310	0.0	2.4	15,183	− 7.7	−13.8	——	——	——
Port Gibson	6,125	−0.6	2.8	20,034	21.3	19.6	——	——	——
Prentiss	——	——	——	22,755	2.2	− 9.4	100,500	10,500	2,000
Quitman	5,021	−0.5	0.5	21,160	−18.3	− 5.9	——	——	——
Raymond	3,172	−0.3	3.6	5,014	10.7	− 9.0	——	——	——
Richton	1,969	−0.6	−2.7	8,933	− 7.1	−22.9	——	——	——
Rosedale	1,565	−1.2	−2.9	6,804	− 9.3	0.1	——	——	——
Ruleville	1,946	−0.3	0.1	12,536	20.5	−10.4	——	——	——
Sardis	3,157	−1.0	−10.4	18,195	18.2	0.0	12,000	——	41,000
Senatobia	6,958	−0.9	1.0	46,133	21.6	20.9	7,290	32,000	31,000
Shelby	1,610	−0.8	−2.4	9,452	13.9	−13.0	——	——	——
Starkville	15,358	−0.0	−37.5	96,154	− 8.4	4.7	75,765	211,760	401,818
Summit	1,702	−0.6	1.1	11,272	3.2	26.2	——	——	——
Taylorsville	1,817	−0.3	1.4	13,871	11.3	− 3.0	——	——	——
Tchula	1,974	−0.8	−1.7	4,485	− 9.0	− 2.8	——	——	——
Tunica	4,252	−0.8	−1.7	14,864	− 5.0	−16.6	55,000	——	80,000
Tupelo	37,759	−1.3	−1.4	313,720	− 4.9	− 1.3	471,717	1,183,926	496,728
Union	2,915	−0.2	2.4	14,268	5.1	9.2	——	——	——
Utica	3,173	−0.0	2.0	8,594	− 1.0	11.1	——	——	——
Vicksburg	39,039	−1.4	−1.6	199,665	8.2	3.7	160,889	176,700	508,865
Walnut Grove	1,065	0.3	0.2	1,770	40.0	3.3	——	——	——
Water Valley	4,212	−0.5	−0.3	21,360	− 4.5	4.6	——	——	——
Waynesboro	7,978	−0.7	1.4	14,634	4.2	6.0	10,000	146,700	0
West Point	12,494	−0.7	−0.7	49,597	−14.8	− 7.3	401,436	261,105	129,430
Wiggins	6,396	−0.3	0.8	27,211	28.3	9.2	——	——	——
Winona	4,997	1.5	−0.6	30,532	− 6.6	− 7.1	7,800	87,250	81,000
Yazoo City	12,579	−0.4	−0.8	58,997	−13.0	− 8.8	——	——	——

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON **(Hinds and Rankin Counties)**	June 1982	May 1982	June 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	161,000	161,800	162,500	−0.49	−0.92
Unemployed Persons	13,000	10,800	11,000	20.37	18.18
Per Cent of Labor Force	8.1	6.7	6.8	——	——
Employed Persons	148,000	151,000	151,500	−1.99	−2.31
Non-Ag Wage & Salaries	126,900	129,300	131,100	−1.86	−3.20
Manufacturing	19,300	19,600	18,500	−1.53	4.32
TELEPHONES IN SERVICE	248,760	238,825	249,734	4.2	−0.4
CITY SALES TAX COLLECTIONS	6,959,409	1,577,823	1,540,052	34.1	35.2

BILOXI-GULFPORT **(Hancock, Harrison and Stone Counties)**	June 1982	May 1982	June 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	69,150	68,460	68,030	1.01	1.65
Unemployed Persons	5,930	5,020	4,760	18.13	24.58
Per Cent of Labor Force	8.6	7.3	7.0	——	——
Employed Persons	63,200	63,440	63,270	−0.38	−0.11
Non-Ag Wage & Salaries	53,350	53,490	53,960	−0.26	−1.13
Manufacturing	9,390	9,370	8,810	0.21	6.58
TELEPHONES IN SERVICE	115,113	116,619	115,002	−1.3	0.1
CITY SALES TAX COLLECTIONS	4,817,697	601,813	537,495	70.1	79.6

[1] Preliminary

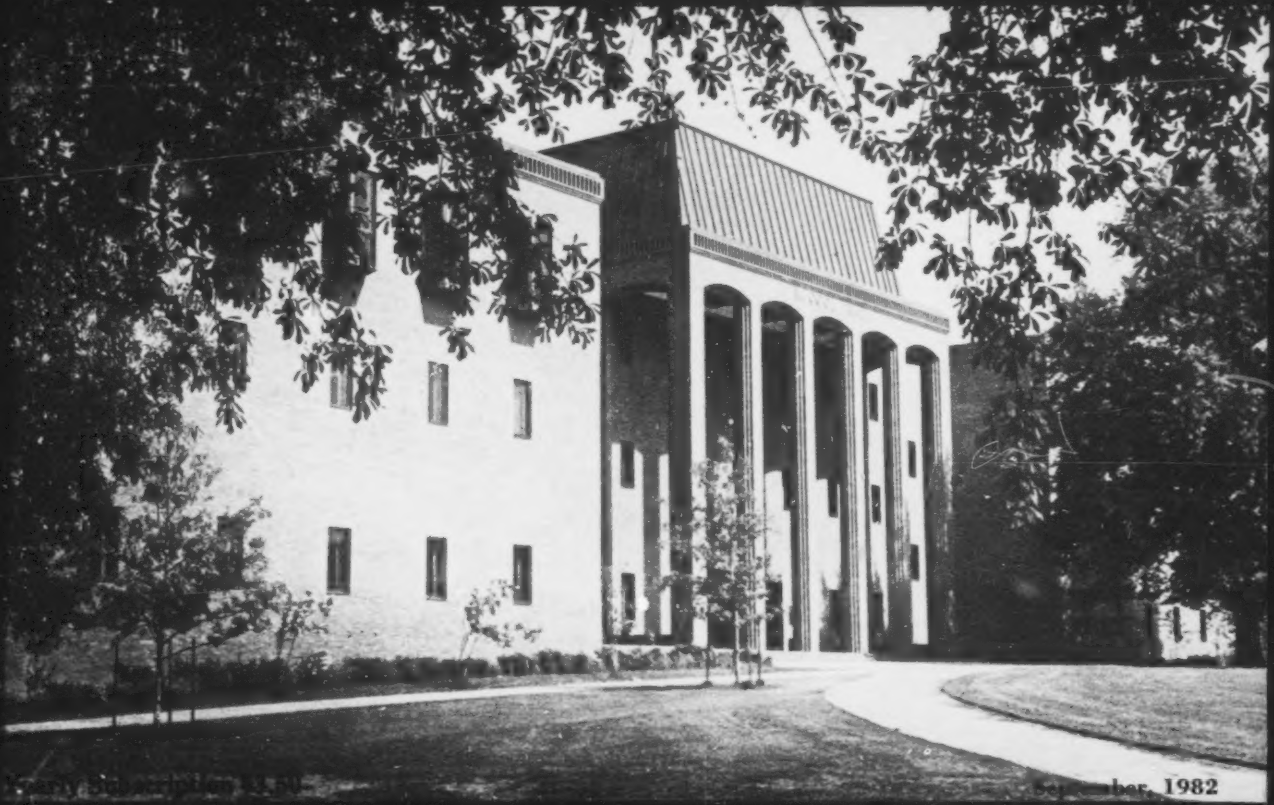
Property Value of Selected Cities
9-30-79 in Dollars

Source:Bond Division, Department of Bank Supervision, State of Mississippi.

1982 Values	Property Per Capita Value All Property	Estimated Full Value All Property	Assessed Value All Property
Aberdeen	10,176	62,654,000	11,591,000
Ackerman	7,848	11,787,000	3,536,100
Amory	10,785	78,042,600	14,773,900
Anguilla	8,030	4,914,700	1,286,500
Ashland	24,289	8,452,600	1,267,900
Baldwyn	8,423	19,928,000	4,981,900
Batesville	26,223	99,543,600	12,932,900
Bay Springs	11,478	20,786,000	4,469,000
Bay St. Louis	8,985	60,665,100	18,015,800
Belmont	10,964	10,613,300	1,592,000
Belzoni	5,289	16,638,400	7,817,800
Biloxi	8,650	419,413,400	100,233,600
Brandon	31,576	306,289,500	52,017,500
Brookhaven	8,600	92,016,900	27,605,000
Bruce	13,115	26,663,200	4,510,700
Calhoun City	12,923	23,869,000	4,773,800
Canton	8,646	90,812,300	17,040,300
Carthage	9,502	28,800,100	8,640,000
Centreville	5,390	9,803,700	3,395,300
Charleston	5,759	16,303,000	,260,600
Clarksdale	5,848	126,740,700	52,059,200
Cleveland	14,889	198,421,700	40,198,900
Clinton	19,173	138,928,000	31,229,800
Coldwater	12,324	17,870,100	1,827,600
Collins	8,921	17,252,600	4,181,800
Columbia	12,144	92,138,300	16,099,400
Columbus	5,775	148,977,000	59,590,800
Corinth	16,796	194,517,600	24,911,200
Crystal Springs	9,948	41,584,700	8,316,900
Drew	6,559	16,882,900	5,909,000
Durant	7,358	20,248,700	4,049,700
Ellisville	6,362	29,540,000	4,216,000
Eupora	14,052	25,181,000	5,036,200
Forest	16,243	66,353,000	16,588,200
Fulton	12,599	36,524,900	7,850,700
Greenville	12,616	500,195,800	114,115,600
Greenwood	7,542	168,945,200	65,208,500
Gulfport	9,314	379,936,200	99,644,900
Hattiesburg	13,673	523,346,100	113,497,500
Hernando	14,985	37,446,800	10,489,600
Hollandale	5.501	17,935,900	7,034,600
Holly Springs	11,052	63,304,000	11,844,000
HornLake	6,617	28,453,500	7,105,700
Houston	13,404	36,460,000	9,115,000
Indianola	8,075	72,249,600	18,062,400
Iuka	10,540	25,179,700	4,016,300
Jackson	18,346	2,824,734,600	889,196,300
Kosciusko	10,462	77,322,100	19,978,800
Laurel	8,783	212,074,000	66,720,900
Leland	8,630	51,780,000	15,534,000
Lexington	6,174	17,014,400	4,147,000
Long Beach	14,340	88,475,600	33,010,700
Louisville	7,533	49,916,300	14,974,900
Lucedale	14,498	30,000,000	5,000,000
Lumberton	7,030	14,650,000	4,395,000

1982 Values	Property Per Capita Value All Property	Estimated Full Value All Property	Assessed Value All Property
Macon	7,762	20,275,600	5,414,100
Magee	15,678	46,609,200	5,593,100
Magnolia	10,145	19,407,300	4,739,500
Marks	5,336	13,922,000	3,480,500
Mendenhall	14,228	34,715,400	8,331,700
Meridian	9,751	439,584,800	131,875,400
Monticello	9,425	16,871,400	3,813,200
Moorehead	5,044	11,521,400	2,880,300
Morton	10,388	27,756,100	7,771,700
Moss Point	14,605	282,188,600	60,765,200
Natchez	9,462	186,439,300	60,140,300
Nettleton	3,898	6,201,400	1,984,500
New Albany	7,684	49,656,300	13,422,500
Newton	10,840	36,769,000	8,616,700
Ocean Springs	14,602	139,885,300	41,622,900
Olive Branch	11,132	16,842,800	5,052,800
Oxford	11,552	98,434,700	32,843,800
Pascagoula	12,475	339,992,800	101,997,800
Pass Christian	16,197	48,250,000	24,258,900
Pearl	24,524	235,999,000	70,800,000
Pelahatchie	8,839	11,543,500	2,940,100
Petal	12,810	89,489,100	18,087,300
Philadelphia	7,083	44,437,500	13,614,400
Picayune	9,536	99,816,000	35,983,200
Pontotoc	16,550	57,151,000	9,481,800
Poplarville	11,271	26,058,300	5,212,000
Prentiss	12,211	27,845,300	2,784.400
Purvis	12,727	23,673,000	3,934,000
Quitman	7,922	21,404,500	4,280,900
Raymond	6,813	11,036,500	3,310,900
Richland	13,198	51,050,000	14,294,000
Richton	7,270	8,069,800	2,131,900
Ridgeland	49,091	81,000,700	17,010,000
Ripley	10,656	37,104,200	6,751,800
Rolling Fork	19,958	40,594,000	4,946,000
Rosedale	6,297	16,364,800	4,909,500
Ruleville	8,250	19,361,100	9,258,100
Sardis	8,671	20,733,000	6,219,900
Senatobia	10,741	45,616,600	8,585,800
Shelby	3,676	9,721,800	5,089,300
Starkville	9,898	112,530,700	37,506,500
Summit	6,444	10,568,500	2,906,600
Taylorsville	7,227	9,388,200	3,098,100
Tchula	4,297	7,428,700	1,485,700
Tunica	8,677	14,621,000	4,386,500
Tupelo	35,664	730,072,000	91,259,000
Tylertown	12,137	21,069,200	3,910,900
Utica	8,327	8,485,000	1,697,000
Verona	9,517	17,863,800	3,938,600
Vicksburg	7,975	203,193,800	79,672,900
Waveland	16,218	50,404,000	7,560,600
Waynesboro	8,589	37,517,400	5,063,200
West Point	15,097	131,554,300	19,601,600
Wiggins	5,395	16,859,600	5,057,900
Winona	7,359	40,629,400	11,697,700
Yazoo City	8,763	94,612,400	19,868,600

MISSISSIPPI
BUSINESS REVIEW



Yearly Subscription $3.50

September, 1982

DIVISION OF BUSINESS RESEARCH
MISSISSIPPI STATE UNIVERSITY

POST OFFICE DRAWER 5288
MISSISSIPPI STATE, MISSISSIPPI 39762

Return Postage Guaranteed

Second Class Postage Paid at
Mississippi State, Mississippi 39762

BEST AVAILABLE COPY

H. KENT BAKER

DR. SEMOON CHANG

H. Kent Baker is Chairman and Professor of Finance at The American University, Kogod College of Business Administration, Department of Finance and Business Institutions, Washington, D.C. Dr. Baker received his D.B.A. from the University of Maryland and is also a C.F.A. and C.M.A.

Dr. Semoon Chang is Professor of Economics at University of South Alabama in Mobile. He received his B.A. in economics at Seoul National University, M.A. in economics from Southern Illinois University, and his Ph.D. in economics from Florida State University.

TABLE OF CONTENTS

Why Do Firms Seek Stock Exchange Listing 3

Dr. Lewis Capella Named Director of Graduate Studies 8

Indexes of Selected Mississippi Economic Indicators 8

What Have We Learned From Hurricane Frederic? 9

Sales Indicated By Sales Tax Collections During July, 1982 By County (000's) 16

State Economic Indicators 17

Business Activity By City 18

SMSA 19

Estimated Effective Buying Income for Designated Counties 20

VOLUME XLIV SEPTEMBER, 1982 NUMBER 3

James D. McComas, Ph.D.
President, Mississippi State University

Dennis R. Leyden, Ph.D.
Dean, College of Business and Industry

Guy T. Peden, Jr., Ph.D.
Director, Division of Research
Editor, Mississippi Business Review
Editor, Mississippi Statistical Abstract
Professor of Marketing

Robert L. Frnka, Ph.D.
Associate Economist
and Associate Professor of Economics

Leo R. Cheatham, Ph.D.
Associate Economist and
Assistant Professor of Economics

Garry Smith, D.B.A.
Editorial Advisor

Oris L. Odom, II, D.B.A.
Editorial Advisor

Thomas W. Hinckle, Ed. D.
Editorial Advisor

Janis C. Bryant
Assistant Editor

Dale Adams
Secretary

Diane Dendy
Secretary

Pam Tiller
Research Assistant

THE MISSISSIPPI BUSINESS REVIEW (ISSN-0026-6167) is published monthly for $3.50 a year in the United States, and $9.00 in foreign countries, by the Division of Research in the College of Business and Industry of Mississippi State University, Mississippi State, Mississippi. Second-class postage paid at Mississippi State, Mississippi. POSTMASTER: Send address changes to the MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762. THE REVIEW is not responsible for and does not necessarily share the opinions presented by authors in their articles. Send all communications to The Editor, MISSISSIPPI BUSINESS REVIEW, P. O. Box 5288, Mississippi State, Mississippi 39762.

Mississippi State University does not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap. In conformity with Title IX of the Education Amendment of 1972, and Section 504 of the Rehabilitation Act of 1973, Dr. T. K. Martin, Vice President, 1610 Allen Hall, P. O. Drawer J, Mississippi State, Mississippi 39762, office telephone number 325-3221, has been designated as the responsible employee to coordinate efforts to carry out responsibility and make investigation of complaints relating to nondiscrimination.

Association for University Business and Economic Research
AUBER
MEMBER

Why Do Firms Seek Stock Exchange Listing

by

Dr. H. Kent Baker

The decision to list on one of the organized security exchanges is faced by many managers. Some believe that listing, particularly on the Big Board, is a milestone toward which any large firm should strive while other eligible firms consciously avoid listing. Why some managers choose to list their stock while others do not is an interesting question and the purpose of this study.

Of course, not all firms are eligible for listing. As Exhibit 1 shows stocks of new or small companies are not able to meet the requirements of the regional or national exchanges.[1] These requirements relate to the number of stockholders and share outstanding, the value of these shares, the earnings record among other factors. Consequently, these firms are traded over-the-counter simply because they do not generate enough activity to justify the use of an auction market as provided by the exchanges.

Some believe that a firm eligible for listing should do so because of the benefits that may accrue both to

EXHIBIT 1. Selected Requirements for Listing on the National and Regional Exchanges

Requirements	Stock Exchanges					
	New York	American	Boston	Pacific	Philadelphia	Mid-West
Number of stockholders (100 or more shares)	2,000	1,200	500	750	1,000	1,000
Number of shares publicly held	1,000,000	400,000	100,000	250,000	250,000	250,000
Market value of publicly held shares	$16,000,000	$3,000,000	-	$1,000,000	$500,000	-
Net tangible assets	$16,000,000	$4,000,000	-	$1,000,000	$1,000,000	$2,000,000
Pretax income	$ 2,500,000[1]	$ 750,000[2]	-[3]	$ 200,000[4]	-[5]	$ 100,000

[1] $2.5 million in latest fiscal year; $2.0 million in each of two preceding years.

[2] $400,000 net income.

[3] Record of demonstrated earnings for two of three years.

[4] Net income before taxes and extraordinary items for each of the two years prior to listing.

[5] Net income for the year prior to listing.

Note: Some additional requirements are needed for listing on some of these exchanges.

the firm and its shareholders. For example, listed firms receive a certain amount of publicity and their status as a listed firm enhances their prestige and reputation. Listing may also have a beneficial impact on the sales of a company's products or perhaps lower the required rate of return on the common stock. Shareholders may also benefit because of increased liquidity and price stability of their stock.

Survey of Financial Executives

In order to determine the motivations held by managers for listing and why qualified firms chose not to list, a survey was conducted of the chief financial executive of 613 firms. These executives represented three distinct groups. One group consisted of 242 executives of firms that listed on the New York Stock Exchange (NYSE) over the six-year period from 1975-80 while another represented a similar set of 171 firms that listed on the American Stock Exchange (AMEX) over the same period. The final group was a random selection of 200 over-the-counter (OTC) securities that met the minimum requirements for AMEX listing.

In the survey the financial executives of listed firms were asked to indicate the primary reason their firms had decided to list on an exchange, and why their firms had not sought exchange listing earlier. They were also asked to give their opinion about four "yes/no" questions regarding exchange listing. Executives from the listed firms were questioned about whether or not they were actively involved in the firm's decision to seek exchange listing. The executives from unlisted firms were requested to indicate the primary reasons for not listing on either the AMEX or NYSE.

In reviewing the results of this survey, it should be remembered that the decision to list undoubtedly involved more individuals than just the chief financial executive. Since identifying all the individuals involved in this decision was viewed as impractical, the views of the chief financial executive may only represent a proxy for the other participants in this decision.

Motives for Exchange Listing

Of the 613 executives surveyed a total of 301 responses were received representing a 49 percent response rate. The responses were evenly distributed over the three groups with a 49 percent response rate from the NYSE firms, 48 percent from AMEX firms, and 51 percent from OTC firms. The extent of participation in the actual listing decision was also quite high with 66 percent of the financial executives of NYSE firms indicating active participation in the listing decision compared with 79 percent of the AMEX group.

Exhibit 2 provides a listing of the primary motives for listing on either the NYSE or AMEX. Generally, the ranking of these motives for both the NYSE and AMEX firms is consistent. The perception that listing increases the visibility of the firm is clearly the most important motive with about 25 percent of the responses followed by the prestige associated with listing. Although these motives are principally noneconomic in nature, several other motives may result in indirect economic benefits either to the firm or its shareholders. For example, listing may improve future financing alternatives for the firm or make its stock more marketable. Listing is also perceived as improving a stock's liquidity and reducing the variability of swings in a firm's stock price. That is, security prices are viewed as relatively more stable because exchange listing improves liquidity by providing a continuous market that makes for more frequent but smaller price changes. Investors may also benefit because more information is available about a listed firm. Because of the free publicity associated with listing, more information may be available on transactions among listed securities.

The financial executives were also asked to indicate the primary reason why their firms did not seek exchange listing earlier. These reasons are shown in Exhibit 3. The overwhelming response of the executives from both the NYSE and AMEX firms was that their firms did not meet the requirements for listing. Some of these executives specifically stated that the company was new or privately held and thus did not meet the requirements for listing. Hence, it appears that at least for these respondents that listing is a logical step in their companys' growth process and is sought once the requirements are met.

A few executives did indicate that exchange listing was not sought earlier because of the fine support provided within the OTC market. One of the major differences between unlisted and listed securities is the role played by market makers versus specialists. Although a market maker's role is similar in many ways to that of a stock exchange specialist, an important distinction exists. Often only one specialist makes a market in an exchange listed stock whereas numerous market makers may compete in a particular

OTC/NASDAQ security. It should also be pointed out that the operation of the OTC market was drastically changed and modernized in 1971 with the introduction of an electronic quotation system called NASDAQ. This computerized communications system provides up-to-the-second quotations for a nationwide network of OTC dealers making markets in stocks which have been approved for inclusion in the NASDAQ system.

A final reason for not listing earlier was the cost associated with listing. These costs include the cost of preparing the applications to be filed with the exchange and the Securities Exchange Commission, the initial listing fee, the annual listing fee, and the cost of preparing additional information required of listed issues compared to unlisted issues. Based on the low number of responses to the cost issue, it may be concluded that the costs associated with listing do not appear to be an important deterrent to listing.

EXHIBIT 2. Primary Motives for NYSE and AMEX Exchange Listing

Motives	NYSE (n=108)	AMEX (n=76)
Visibility	23%	25%
Prestige	21	12
Improve future financing alternatives	19	12
Stock price stability	9	12
Marketability	9	10
Liquidity	7	4
Availability of stock and price information	5	7
Other*	7	18
Total	100%	100%

*Other includes no individual category with more than five percent of the total responses.

EXHIBIT 3. Reasons NYSE and AMEX Firms Did Not Seek Exchange Listing Earlier

Reasons	NYSE (n=92)	AMEX (n=63)
Did not meet requirements of listing	73%	62%
Fine support of the OTC/NASDAQ	6	8
Cost of listing	4	5
Other*	17	25
Total	100%	100%

* Other includes no individual category with more than five percent of the total responses.

The survey also contained four "yes/no" questions relating to the perceived effects listing has on each respondent's firm. These questions and the responses to them are shown in Exhibit 3. The first question asked whether listing on either the NYSE or AMEX was necessary to be competitive in the respondent's industry. The overwhelming response by both groups was negative. Thus, the executives seem to believe that remaining competitive does not necessitate exchange listing.

The second question dealt with the issue of whether listed stocks are more fairly valued than unlisted stocks. The opinions of the financial executives were mixed with both groups about evenly split on this issue. The responses suggest that no clear mandate exists on the relationship between listing and stock price as perceived by the financial executives.

Although some conflicting evidence exists in the literature, the general view is that the market price after listing is not significantly higher than it would have been if the stock had remained traded over-the-counter.[2] Hence, empirical evidence would tend to support the belief that in a reasonably efficient marketplace the decision to list would not cause a stock to be more fairly valued. As Brealey has noted, "A company cannot bring about a permanent, worthwhile improvement in its share price by obtaining an exchange quotation."[3]

The third question asked whether listing had the effect of reducing the cost of equity capital to the firm. The results show that 62 percent of the financial executives from NYSE firms and 75 percent from AMEX firms answered negatively. Thus, it appears that the majority of the respondents perceives that listing does not have any major impact on reducing a firm's cost of equity capital. This belief is supported by empirical research in the financial literature.[4]

However, a reasonably large percentage of these executives held the opposite view. A typical scenario for the favorable impact of listing on the cost of capital is that listing increases liquidity and the availability of information as shown in Exhibit 2. The contention is that investors are willing to accept a lower rate of return on securities than they would otherwise require because the firm is perceived as less risky. By providing investors with these benefits in the form of listing their companies' stocks, some financial executives believe that exchange listing lowers their firms'

EXHIBIT 4. Responses to Issues on Exchange Listing

Statement	NYSE*		AMEX*	
	Yes	No	Yes	No
1. Do you feel that it is necessary to gain NYSE or AMEX listing in order to be competitive in your industry?	12% (14)	88% (103)	4% (3)	96% (78)
2. Do you feel that your stock is more fairly valued because it is listed?	46 (52)	54 (61)	59 (47)	41 (33)
3. Do you feel exchange listing has had the effect of reducing the cost of your equity capital?	38 (40)	62 (66)	25 (18)	75 (55)
4. Has your firm experienced any detrimental or negative effects from listing?	8 (9)	92 (107)	12 (10)	88 (71)

*The actual number of respondents is given in parentheses.

cost of capital. This scenario finds very little support in the literature.

The final question asked whether the firm experienced any detrimental effects from exchange listing. The response was 92 percent "no" for the NYSE listed firms and 88 percent for the AMEX firms. Thus, only a very small percentage of executives of listed firms perceived any detrimental effects of listing.

Reasons for Not Listing

Although many firms seek exchange listing each year, other eligible firms do not. Financial executives of 200 OTC firms that met the minimum requirements for AMEX listing were surveyed to determine their reasons for not wanting to list. As shown in Exhibit 5, the executives simply felt that no advantage existed to listing, i.e., the costs exceeded the benefits. Although the marginal costs of listing are small, some managers obviously felt that the marginal gains to be achieved from listing were even less than the relatively small costs.

Several other reasons were mentioned for not listing. For example, a fourth of the respondents indicated that they preferred market makers to specialists. Although market makers are currently perceived by some as preferable to specialists, this reason for not listing will probably change with the expected arrival of a national market system due to changes that will occur in the role of specialists. It should be noted that 10 percent of the respondents indicated that their firms did not meet the requirements for listing. This may have been true for listing on the NYSE but not for the AMEX because each firm was screened to ensure that minimum AMEX listing requirements were met.

A few managers whose responses are reported in the "other" category in Exhibit 5 indicated that they did not seek exchange listing because listing entailed added reporting requirements. Prior to 1964 this was true. However, in 1964 Congress amended the Securities Act of 1934 and extended disclosure and reporting requirements for certain OTC firms. Hence, the differences in the disclosure and reporting requirements of unlisted firms large enough to consider listing and exchange listed firms no longer exist.

EXHIBIT 5. Reasons for OTC Firms Not Seeking Exchange Listing

Reasons	OTC Firms (n = 91)
No advantage to listing/costs exceed benefits	39%
Prefer market makers to specialists	25
Do not meet requirements	10
Other*	26
Total	100%

*Other includes no individual category with more than five percent of the total responses.

Summary and Conclusions

Although no single answer can be given to the question "Why do firms seek stock exchange listing?" several major reasons do exist. Apparently many financial executives view exchange listing as providing something of value to their firms and shareholders. The value of exchange listing has both economic and non-economic overtones. Non-economic motives such as increased visibility and prestige head the reasons for listing but some motives have economic implications such as facilitating new financing and providing a more stable stock price. The majority of the financial executives who responded did not believe that exchange listing had the effect of reducing the cost of the firms' equity capital which is a belief supported by the literature. However, the executives were evenly divided regarding their opinions of whether listing makes their stocks more fairly valued. Research does not support the belief that listing has a favorable impact on stock prices.

It may be concluded that exchange listing represents a logical step in the growth patterns of many firms. That is, when the requirements for exchange listings are met, the firm seeks listing because of several perceived benefits. Other firms prefer market makers in the OTC market compared with specialists on the exchange and consequently decide not to list. To these firms the marginal benefits achieved through listing do not offset the costs. Some of the reasons for not listing will be eroded once the national market system goes into effect.

---

[1] Full listing requirements may be obtained by contacting the exchanges directly.

[2] See, for example, R. W. Furst, "Does Listing Increase the Market Price of Common Stock?" **Journal of Business** (April 1970, pp. 174-80) and W. M. Goulet, "Price Changes, Managerial Accounting and Insider Trading at the Time of Listing," **Financial Management** (Spring 1974), pp. 30-36.

[3] R. A. Brealey, **Security Prices in a Competitive Market** (Cambridge, Mass.:The MIT Press, 1971), p. 78.

[4] F. J. Fabozzi, "Does Listing on the AMEX Increase the Value of Equity," **Financial Management** (Spring 1981), pp. 43-50.

Dr. Louis Capella Named Director of Graduate Studies

Dr. Louis M. Capella has been appointed Director of Graduate studies replacing Dr. S. E. Trotter, who retired in May.

An Associate Professor in the Department of Marketing since 1978, Dr. Capello received his bachelor's and master's degrees from Xavier University and his doctorate from the University of Kentucky.

In addition to his teaching and research, he has contributed several articles to **Journal of the Academy of Marketing Science**, and **Akron Business and Economic Review**. He is also co-author of a forthcoming marketing textbook.

INDEXES OF SELECTED MISSISSIPPI
ECONOMIC INDICATORS
[Seasonally Adjusted]
1969=100

Indicator	July 1982	June 1982	July 1981
Retail Sales	164.0	158.9	176.2
Electric Sales	197.2	221.9	213.1
Telephones in Service	227.0	228.3	230.0
Gasoline Gallonage	149.0	151.1	168.2
Loans of Savings & Loan Institutions	14.4	80.5	100.9

What Have We Learned From Hurricane Frederic?

by

Dr. Semoon Chang

ABSTRACT

The post disaster report of Hurricane Frederic by the Corps of Engineers tells us that Frederick of 1979 has so far been the costliest, although not the deadliest, hurricane on record; costlier than Agnes of 1972, Camille of 1969, and Betsy of 1965. This paper deals with economic data of Frederic relating to the coastal counties of Alabama which were hit directly by the hurricane. We summarize the impact of the hurricane on local deposit and municipal finance, show where all recovery dollars came from and how fast they left the disaster area, and discuss some issues of economic efficiency that arise from major natural disasters. Policy implications of our analyses are also presented.

Introduction

As major natural disasters come and go, it appears, so do the lessons we could have learned from the aftermaths of these disasters. These lessons are numerous and relate to such important issues as how many outside dollars flow in for repair and recovery, what percentage of these dollars remains locally to actually help disaster victims, what should be done to increase this percentage, how natural disasters affect finance of the impact government, whether victims eligible for outside assistance necessarily need the assistance, who should pay for repair work on public and other non-profit assets, and so on.

This study is intended to summarize some of these lessons on the basis of Hurricane Frederic data so that we can be better prepared for the next major disaster. Let us, first, introduce Frederic himself.

On August 27, 1979, a tropical wave moved off the west coast of Africa into the Atlantic Ocean. Reported two days later was the formation of a tropical depression with thunderstorms displaying a rotary motion and with maximum sustained winds of 35 miles per hour. As its wind speed exceeded 39 miles per hour on August 30, the National Weather Service in Miami upgraded it to a tropical storm and gave it a name, Frederic. On September 1, Frederic became a hurricane as its highest winds exceeded 73 miles per hour. The intensity of the storm varied widely for the next ten days until it reached the Gulf of Mexico on September 10 as a born-again hurricane. The hurricane continued to intensify. By late afternoon on September 11, a hurricane watch was issued from Panama City, Florida, to Vermilion Bay, Louisiana. On September 12 at 5:00 A.M. CDT, hurricane warnings were posted from Panama City, Florida, to Grand Isle, Louisiana, signalling the expected strike of the hurricane within 24 hours. The Alabama coast began to feel the top of the hurricane wind around 5:00 P.M., and the eye of the hurricane crossed over the west end of Dauphin Island at about 10:00 P.M. CDT with the power at half the city rates within three miles of the A.M., September 13, the center of the hurricane passed just west of Mobile. On September 14, the presidential declaration of major disaster areas was made for 30 counties in Alabama, Florida, and Mississippi. Two coastal counties in Alabama, Mobile and Baldwin, were in the direct path of the hurricane.

Flow of Hurricane Dollars

Damage Estimates

Estimates of damages and losses from Hurricane Frederic were compiled by the U.S. Army Corps of Engineers, Mobile District. Damages in Table 1 refer to direct damages which were sustained as a result of physical damage to structures and their contents, and also to indirect losses which include costs of such items as production loss, shutdown cost, subsistence and cleanup. The federal government damage category in the table is comprised of all buildings and properties owned by the federal government including military facilities, while the public property category includes schools, churches, hospitals, and other properties which belong to non-federal governmental agencies. The transportation category consists of motor vehicles, railroads, highways, streets and bridges, while harbor facilities are classified as marine together with recreational boats and commercial vessels.

Total loss figures from Hurricane Frederic are larger than $1,698,948,000 shown in Table 1, since this amount does not include reimbursements for structural damages by various federal programs which amounted to $310,166,000, and expenditures for disaster relief activities which were $212,976,000. The Corps of Engineers, therefore, concludes that the total monetary loss from the hurricane is about $2,222,090,000. [1]

Table 1 also tells us that, although no less than ten states suffered damages from the hurricane, about 70 percent of the damages and losses occurred in Alabama. We thus limit our analysis to the State of Alabama.

Table 1

Summary of Damage Estimates by Category
(In $ thousands)

Category	Alabama	Miss.	Florida	Total
Residential	$ 405,400	$152,434	$15,869	$ 573,702
Commercial	164,825	50,551	6,870	222,246
Industrial	35,079	12,085	865	48,029
Public Property	42,931	16,380	1,034	60,345
Federal Gov't	5,220	10,314	13,315	28,849
Transportation	51,476	5,245	3,237	59,958
Marine	29,369	18,785	3,883	52,037
Utilities	54,162	9,800	7,312	71,274
Crops	151,627	57,933	754	210,314
Farm Property	17,925	13,839	830	32,594
Timber	220,800	104,500	300	325,600
Total	1,178,814	451,866	54,268	1,684,948
other states (LA, TN, KY, OH, WY, PA, & NY)				14,000
TOTAL				$1,698,948

Source: Summarized from U. S. Army, Corps of Engineers, [10], p. 205, Table 45.

Influx of Hurricane Dollars

Hopefully, all hurricane dollars that moved into Alabama for disaster relief activities and reimbursements of structural damages relating to Hurricane Frederic are summarized in Table 2 by month of actual payments.

Federal dollars by program in the table include Small Business Administration - business loans (SBAB), Small Business Administration - home loans (SBAH), Farmers Home Administration (FMHA), Emergency Conservation Program (ECP), Disaster Unemployment Assistance (DUA), Emergency Food Stamps (EFS), Federal Insurance Administration (FIA), Individual Family Grants (IFG), and Public which refers to obligations to local governments by Federal Emergency Management Agency (FEMA). [2]

The "Others" in the last column of Table 2 is comprised of (a) reimbursements of structural damages by insurance companies and public utilities, (b) disaster relief activities by American Red Cross, Salvation Army, religious groups, and federal dollars spent for debris removal, and (c) tax returns through claims of casualty loss from the Internal Revenue Service and the Alabama Income Tax Division.

Damage estimates of utility companies and flood insurance paid by FIA and the Alabama Insurance Underwriting Association are reported by the Corps of Engineers. [3] Although the Corps post disaster report also presents data on non-flood insurance payments on damaged properties by private insurance companies, the figures used in Table 2 are based on the author's contact with individual insurance companies. [4] This is because the insured loss, estimated by the American Insurance Association and reported by the Corps, was too large in comparison to actual payments which the author was able to gather. The tax return figure is based on the guess by local IRS auditors as to the total casualty loss claims relating to the hurricane in Alabama, which were put roughly at $160,000,000. [5]

By the end of 1980, the coastal counties of Alabama had received approximately $670,740,000 for recovery from Hurricane Frederic with additional $36,807,000 approved for disbursement. This huge amount of recovery dollars affected virtually all segments of the local economy in coastal Alabama, but the impact was very shortlived as we showed in the next section through analysis of their impact upon bank deposits and municipal revenue.

Table 2

Influx of Recovery Dollars Into Coastal Alabama by Month
(In $ thousands)

Year/ Month	Federal Dollars by Program										Federal & Others
	SBAB	SBAH	FMHA	ECP	DUA	EFS	FIA	IFG	Public	Total	
1979:											
September	$ 0	$ 0	$ 0	$ 0	$ 0	$14,321	$ 621	$ 0	$ 2,997	$ 17,939	$ 59,022
October	2	137	0	0	223	602	398	5	12,794	14,162	137,415
November	122	1,351	0	0	284	0	14,779	582	15,263	32,381	155,634
December	393	1,815	0	0	90	0	0	485	3,158	5,941	72,965
1980:											
January	2,973	6,034	0	0	376	0	0	306	3,155	12,844	40,958
February	3,042	3,454	0	416	883	0	0	5,550	1,826	15,170	35,891
March	2,589	2,672	0	534	117	0	19,252	4,335	0	29,498	50,030
April	3,095	2,169	0	460	157	0	0	2,667	539	9,087	26,367
May	18,750	4,515	0	628	86	0	0	2,606	-1,422	25,163	38,123
June	3,134	1,514	0	391	94	0	0	3,161	307	8,600	8,600
July	1,983	2,198	0	524	43	0	0	676	22,854	28,279	28,279
August	3,410	1,732	0	432	33	0	0	463	0	6,070	6,070
September	0	0	9,373	0	0	0	0	0	669	10,042	10,042
October	0	0	74	0	-8	0	0	1,073	13	1,152	1,152
November	0	0	0	0	0	0	0	39	152	192	192
Approved for Disbursing	18,188	17,404	559	2,148	-1,623	0	0	131	0	36,807	36,807
Total	$57,681	$44,995	$10,006	$5,533	$ 755	$14,923	$35,050	$22,079	$62,305	$253,327	$707,547

Notes: Figures under all program categories except Public are actual disbursements, while figures under the Public are obligations to local governments by FEMA during the particular month. "Others" in the last column are private sources ($259,397,000), relief activities ($151,447,000) and tax returns ($43,200,000). Private sources are assumed to have reached the disaster area at rates of 10% in September, 30% in October, 30% in November, 20% in December of 1979, and 5% each during January and February of 1980. Similar assumption has been made for disaster relief expenditures, while tax returns are assumed to have flowed in at rates of 30% in March, 40% in April and 30% in May of 1980. The monthly data of federal dollars by program were derived from FEMA, DMIS Report R.4.

Select Impact on Local Economy

Bank Deposits

Commercial Bank deposits by type as of the last working day of each quarter are summarized in Table 3 for Mobile County. IPC deposits refer to deposits by individuals, partners, and corporations, while total deposits are the sum of IPC deposits and deposits by non-profit entities including local governmental units. Differences between IPC savings and total savings deposits are negligible.

There appears to be a bulge in the fourth quarter, 1979, data of total demand, IPC demand, and IPC savings deposits. A visual inspection could be misleading, however, since the bulge may have been caused by some other factors besides the hurricane. We, therefore, estimated deposit forecasting models for Mobile County [6] by extending the data base to include deposits through the first quarter of 1981, and

Table 3

Mobile County Bank Deposits
(In $ thousands)

Year/ Quarter	Total Demand	IPC Demand	IPC Savings	Total Time
1978,1Q	$437,240	$360,673	$284,177	$474,642
2Q	451,286	374,394	282,764	479,976
3Q	447,215	367,886	281,317	513,104
4Q	503,391	401,153	275,641	509,345
1979,1Q	450,981	382,958	273,984	539,084
2Q	451,135	379,335	272,464	540,374
3Q	490,661	411,122	272,503	515,913
4Q	586,745	493,754	290,502	483,545
1980,1Q	515,826	446,437	280,199	525,164
2Q	527,441	451,925	285,673	534,807
3Q	512,454	439,411	291,859	544,162
4Q	556,765	455,857	266,797	557,485
1981,1Q	457,575	385,877	302,164	624,465

Source: Carner & Associates, Bancpen.

by including a dummy variable for Hurricane Frederic which represents the third and fourth quarters of 1979 and the first quarter of 1980.

The dummy variable for the hurricane did not turn out statistically significant in the savings and time deposit models, implying that savings and time deposits were not affected significantly by the hurricane. Impact on demand deposits was statistically significant and was virtually the same at about $37,000,000 in both total and IPC deposits. [7] But Mobile County demand deposits during the six months immediately following the hurricane were higher by about 37 million dollars due solely to recovery activities relating to the hurricane. The major impact on deposits was felt during, and at the end of, the fourth quarter of 1979. The impact was wearing out rapidly during the second quarter of 1980.

Municipal Finance

The process of repair and recovery from a major natural disaster generates a large flow of dollars in the disaster area which may increase municipal revenue, provided that the local government levies sales tax on a wide variety of goods and services. Mobile, as a central city hit directly by the hurricane, enjoyed a substantial increase in sales tax revenue during the 12 months following the hurricane. The impact of Hurricane Frederic upon the revenue of the City of Mobile is summarized in Table 4, which is briefly commented on below. [8]

First, municipalities in Alabama retain taxing power at half the city rates within three miles of the city limits. These areas are called the police jurisdiction. Sales tax, p.j. in Table 4 refers to sales tax revenue from Mobile's police jurisdiction. Second, building activities and other businesses for recovery from the hurricane led to increases in revenue from inspection fees, business licenses, hotel lodging tax, and lease and rental tax. Third, for three months following the hurricane, the policy of the city commission had been to direct police efforts toward recovery activities rather than ticketing traffic violations. Income from police fines for the three month period was zero, but caught up with the original estimate rather fast afterwards. Fourth, the debris removal was probably the most burdensome recovery act for most households. The city commission, therefore, suspended dumping fees for nine months at the city landfill site, and even for the remaining three months of the post hurricane fiscal year, the city did not enforce the collection of dumping fees. Finally, the total impact, $2,525,516, represents 6.43 percent of total general fund budget for fiscal year 1979-80 which started on October 1, 1979.

Contrary to the favorable short run impact, the long run impact on municipal revenue appears quite different. The hurricane damaged so many trees in the area that every time there was a heavy rain, the community was faced with a flood problem because the soil without trees could no longer hold water for gradual release. The problem was so serious that the first heavy rain after the hurricane, in April of 1980, caused the dam at the major municipal park in Mobile to break resulting in severe flooding along the creek which was much more damaging to the residences around the creek than what was experienced as a result of the hurricane. The city is about to issue a ten million dollar bond to mend the fence for only a short while until the FEMA hopefully buys properties around the creek. The ten million dollars are about four times the increase in revenue which the city enjoyed from the hurricane.

Table 4

Hurricane Impact on Municipal Revenue by Source

Source of Revenue	Net Impact
Sales tax, city	$1,948,474
Sales tax, p.j.	-98,044
Inspection fees	203,950
Business licenses	387,969
Room tax	65,042
Lease & rental tax	146,880
Police fines	-27,672
Landfill	-128,032
Lot cleaning	26,949
Total Net Impact	$2,525,516

Policy Implications

Let us go back to Table 2 for a moment. By the end of 1980, the coastal counties of Alabama had received approximately $670,740,000 for recovery from Hurricane Frederic with additional $36,807,000 approved for disbursement. This vast sum of recovery dollars generated only about $1,948,474 sales tax revenue for Mobile, the only major city in the disaster area.

The sales tax revenue which resulted solely from recovery dollars is equivalent to $170,539,000 retail sales of taxable goods in the two coastal counties of Alabama. To find out the percentage of hurricane dollars which remained for local turnover, we make further adjustments on the retail sales figure. First, we multiply the figure by 1.52 since retail services are about 17 percent of retail sales of taxable goods in the area, and since retail sales of goods that are not taxed were 35 percent of total taxable retail sales during the nine months following the hurricane. [9] Second, we multiply the result by 1.147 since damages in the remaining counties of Alabama were 17.4 percent of those in the two coastal counties. [10] Finally, we divide the result by 1.5275, a re-spending ratio in coastal counties of Alabama, since total sales include expenditures which are respent from original hurricane dollars. [11] The final figure is $194,648,000, which represents no more than 29 percent of all hurricane dollars that moved into the disaster area. In brief, only about 29 percent of all recovery dollars remained locally for at least one local turnover.

Unless the disaster area is a widely diversified economy, it would be very difficult to increase the percentage of recovery dollars that are kept locally. It is rather obvious that how rapidly a disaster area recovers from a major natural disaster depends very much upon its ability to keep recovery dollars from leaking out of the area. Although the Disaster Relief Act of 1974 recommends a preferential treatment of local firms and individuals in recovery activities [12], it would be wise for areas prone to natural disasters to think of some ways to retain as many recovery dollars as possible within the area, before a major disaster hits the area. These ideas may include permits for temporary businesses, and a tax such as sales or excise tax that can be levied on flow of dollars.

Efficiency Issues

Needs vs. Eligibility

One of the key issues arising from disaster recovery efforts relates to a person who may not need aid, but is still eligible for the aid. The problem of needs vs. eligibility is not necessarily limited to individuals. Early in April, 1981, the Alabama Department of Conservation and Natural Resources received a windfall revenue of $449,178,059 by awarding leases for future oil and gas exploration on 13 of 64 tracts in the Mobile bay. [13] FEMA wanted the state to spend some of the revenue for assistance of flood victims, but the state opposed the idea claiming that the state legislature did not allocate the revenue for disaster assistance.

Problems abound even if our analysis is limited to individuals. First of all, the public's perception of the poverty line has been found to rise with average income although the income elasticity of the poverty line appears less than one. [14] Secondly, assuming that the minimum needs are somehow agreed upon, the eligibility for aid may still be defined beyond what is necessary to cover the minimum needs. FIA's flood insurance may be cited as an example. Another example relates to the food stamp participation record subsequent to Hurricane Frederic.

According to Table 5, supplied by the Food Stamp Office of Mobile County, 239,597 persons through 65,526 households received $12,165,986 for emergency food stamps relating to Hurricane Frederic in September, 1979. During the same month, additional 45,116 persons through 13,666 households received $1,649,715 for regular participation. In other words, no less than 284,713 persons were assisted through the food stamp program in Mobile County during the hurricane month, whereas the official population estimate of the county for the same year was no more than 362,900. Some ($233,064) of the disbursement was returned to the office, following a threat by the state attorney general to prosecute cheaters, but the 78.5 percent participation rate appears too high not to have any policy implication.

Table 5

Hurricane Frederic and County Food Stamps

Emergency Food Stamps	September 1979	October 1979	Total
Total issuance	$12,165,986	$537,029	$12,703,015
Total households	65,526	3,704	69,230
Total persons	239,597	10,180	249,777

Source: Mobile County Food Stamp Office. These figures pertain only to Hurricane Frederic, and do not include food stamps which would have been given out without the hurricane.

Normally, households participating in the food stamp program may have up to $1,500 worth of countable resources which include, among others, checking and savings deposits, stocks, bonds, and others that produce income. [15] Resources that are not counted include owner-occupied home and surrounding lot, personal belongings, and life insurance.

According to the local food stamp office, any household which suffered a loss greater than its income for the disaster month qualified for food stamps. The application form for emergency food stamp assistance solicits information on income, loss in income during the month, liquid financial assets, and damages and other losses from the disaster. The application form, which is uniform throughout the state, does not indicate exact criteria for receiving emergency food stamps. The 78.5 percent participation rate is not believed unique to Mobile since the County food stamp office simply followed the general rule above which is equally applicable to other areas.

Share of Recovery Expenditures

Federal disaster assistance is authorized when the President determines that a disaster is so severe that effective response is beyond the capabilities of the state and local governments. [16] The determination is made public through the President's declaration of a major disaster area under the Disaster Relief Act of 1974. The Act requires the federal and state governments to work out an agreement on share of costs before federal assistance starts flowing into the disaster area. In reality, however, most payments for governmental and non-profit assistance that are requested through damage survey reports have been paid by the federal government. Section 1 of the bill, H. R. 3537, would amend the Disaster Relief Act of 1974 to stipulate a 25 percent share of the state and local government for relief of major disasters. [17] According to an estimate by the Congressional Budget Office, the cost share requirement will save between 5 and 10 percent of the resources required of the federal government in a normal disaster year. [18] Although H. R. 3537 was pending at this writing for action at the second session of the Ninety Seventh Congress which convened on January 25, 1982 [19], a FEMA official informed the author that the 75 (federal) - 25 (state and local) share rule has been in effect since Hurricane Frederic. [20] Further, the rule is stated explicitly in the FEMA's handbook for applicants. [21]

The 75-25 rule has an obvious advantage of improving efficiency in resource allocation at the local government level. For instance, the City of Mobile has been renting a building which has been used as a new City Hall for almost three years now with FEMA paying the monthly rent of about $243,000, while repair work on the old, damaged City Hall is barely under way. Under the cost share rule, it is doubtful whether the city would be staying at the rented site for more than two years without any work on the old City Hall. The view from the local government is different in that, for major disasters, local governments will be unable to pay the 25 percent of recovery expenses unless the state government assumes the bill. Many states including Alabama do not maintain a disaster relief fund. The FEMA's response to this complaint is that H. R. 3537 permits the President to determine that a smaller state and local share is appropriate under particular circumstances. State and local governments fear that the flexibility may be abused politically.

Barrier Islands

Barrier islands are strips of beaches, dunes and marshlands which prevent erosion of beaches and wetlands which worsens the flood problem. Hurricane Frederic surfaced a classic case of the barrier island problem. The hurricane flipped the two mile concrete bridge decking from the mainland to Dauphin Island into Mobile Bay like a Tiddliwink. [22] The $32 million project to build a new bridge was brought to the federal court in Mobile by the Sierra Club and the National Resources Defense Council, which argued that it was wrong to subsidize residents on the disaster-prone island. Residents of the island are mostly middle class retirees and weekend vacationers. Federal expenditures to restore the island from the hurricane damage were estimated at over $50,000 per residence. These expenditures include bridge construction, road and seawall repairs, water and sewer repairs, temporary housing, and flood insurance payments. Most beaches of Dauphin Island are either private or limited-access, and Mobile County has never seriously backed plans to expand public recreation on the island.

The FIA makes a distinction between actuarial rates and chargeable rates. Actuarial rates are based on applicable operating costs and allowances, while chargeable rates refer to the rates "which can be reasonably be charged to insureds in order to encourage them to purchase the flood insurance made available under the Program." [23] FIA's insurance premiums are chargeable rates by its own account. [24] In the absence of the FIA's flood insurance, no private insurer is expected to offer such a policy at FIA rates, and no financial institution is expected to offer a mortgage without flood insurance. Whatever rationale may be used to justify the use of chargeable rates which are lower than actuarial rates, its impact is clearly to redistribute income from the remaining sectors of the economy to residents of major flood areas including wealthy residents of barrier islands. The suit by the Sierra Club was dismissed at the court since the project was merely replacing the older bridge.

Bills were introduced in 1981 in the House (H.R. 3252 and in the Senate (S. 1018) to establish a coastal barrier resource system. This legislation was also intended to prohibit federal subsidies for flood insurance, bridge construction, sewage treatment facilities, and other types of construction on the nation's barrier islands. Both bills died, however, for lack of action.

Summary

Disaster areas may experience temporary, but substantial, increases in flow of recovery dollars for several months following a major natural disaster. The increased flow will raise bank deposits, increase retail sales, and generate additional revenue to the local government. The post disaster appearance of increased wealth does not last long, if Hurricane Frederic is of any indication. Of about $670,740,000 which actually moved into the coastal counties of Alabama for recovery from the hurricane, only 29 percent remained locally for at least one local turnover. Major economic impact from the hurricane seems to have disappeared between six and nine months after the hurricane.

For communities prone to flood, the short term increase in municipal revenue may also be misleading. Natural disasters which destroy trees will cause flooding which may require a large increase in municipal expenditures, seemingly unrelated to the natural disaster. Communities which suffer a high probability of natural disasters may well be advised to devise some ways which will keep locally as many recovery dollars, as possible, before the disaster hits the area.

Some disaster victims who qualify for aid may be wealthy enough to do well without the aid. The needs against eligibility problem applies to disaster communities as well as disaster persons. The Disaster Relief Act Amendments of the 97th Congress (H. R. 3537) deals with the efficiency issue by requiring wealthy states to increase their share of recovery expenditures. Hurricane Frederic brought the barrier island and the flood insurance problems to the surface with no indication of improved efficiency in sight.

Footnotes

1. See U.S. Army, Corps of Engineers, 1981, p. 237, Table 52.
2. Expenditures for most federal programs are based on DMIS Table 3.2: Account Balances by Applicant, FDAA Contract 598, dated August 25, 1981, and DMIS Report R.4: Individual Assistance Summary, Period of Reports, September 13, 1979, to November 18, 1980. These reports were obtained from the Atlanta office of FEMA. Contract 598 identifies the State of Alabama.
3. The Corps of Engineers, 1981, p. 195 and p. 118.
4. Data on State Farm, Allstate, Continental, Hartford, Independent Life, Metropolitan, and Mutual of Omaha were obtained through letters and telephone calls, while data on Aetna, Commercial Union, Crum and Foster, and Firemen's Fund are based on **The National Underwriters**, October 5, 1979. Insurance payments refer to payments for both private and public properties.
5. The author had three interviews with two of the local IRS auditors who, in turn, checked opinions of the local appraisers, and had one return correpondence with the regional office of IRS in Birmingham.
6. Semoon Chang, "Forecasting Deposits of a Commercial Bank," **Baylor Business Studies**, Vol. 12, No. 1 (April, 1981), pp. 63-84.
7. The IPC demand deposit (DDI) model is summarized below with such independent variables as SMSA non-agricultural employment (EMP), consumer price index (CPI), yields on new 3 month Treasury Bills (RTB), Aid No. 1226. Revised October, 1980. Households may have dummy (D4), and the dummy for Hurricane Frederic (DFRED). Figures in the parentheses are standard errors of estimated coefficients.

$$\begin{array}{l} DDI = -92{,}167.3300 + \underset{(0.3743)}{1.2821}\,EMP + \underset{(141.9265)}{1{,}448.6620}\,CPI - \underset{(1{,}068.7945)}{2{,}037.{-}1540}\,RTB \\ \quad - \underset{(12{,}391.4621)}{72{,}210.7400}\,DNOW + \underset{(4{,}365.3741)}{20{,}965.9600}\,D4 + \underset{(7{,}800.2986)}{36{,}944.9800}\,DFRED \end{array}$$

$R^2 = 0.98$

$D\text{-}W = 2.27$

8. Table 4 is based on a working paper by the author titled "Hurricane Impact Upon Municipal Revenue," which is available upon request to the author.
9. University of Alabama, **Economic Abstract of Alabama, 1977**, p. 152, and p. 176.
10. U. S. Army, Corps of Engineers, 1981, p. 237.
11. The respending effect is assumed limited to the first year in view of the rapid leakage of hurricane dollars out of the impact area. The respending ratio was derived in terms of employment. For derivation of the respending ratio and the basic multiplier for coastal counties of Alabama, see Chang, 1979 (Ref. 1), p. 446.
12. Ref. 12, p. 3082.
13. Mobile Press, April 6, 1981.
14. Robert W. Kilpatrick, "The Income Elasticity of the Poverty Line," **The Review of Economics and Statistics**, Vol. LV, No. 3 (August, 1973), pp. 327-32. The study is based on time series data of the Gallup poll, which asks what is the smallest amount of money a family of four needs each week to get along in this community.
15. U. S. Department of Agriculture, Food and Nutrition Service, **How to Apply For and Use Food Stamps**, Program Aid No. 1226. Revised October, 1980. Households may have up to $3,000 if at least one member is 60 years or older.
16. FEMA, March, 1981, p. 1-2.
17. U. S. House of Representatives, 1981, p. 2.
18. U. S. House of Representatives, 1981, p. 5.
19. The 97th Congress, **Calendars of the United States House of Representatives and History of Legal Legislation**, Thursday, March 25, 1982, p. 59.

20. Source is the author's interview with Mr. Sarabia at the Atlanta office of FEMA.
21. FEMA, March, 1981, p. 2-8 and p. 3-3.
22. This paragraph is based on an article by Tom Horton, a Baltimore Sun reporter, as printed in the January 29, 1981 issue of the Mobile Press. The contents are confirmed separately by the author. See also Wesley Marx, "SOS - Save Our Shorelines," **Reader's Digest**, November, 1981, pp. 217-24.
23. Ref. 7, p. 15.
24. The latest insurance premium per year per $100 coverage on residential structure is $0.25, indicating $250 premium for $100,000 home. See Ref. 7, p. 16.

REFERENCES

1. Chang, Semoon, (1979). "An Econometric Forecasting Model Based on Regional Economic Information System Data: The Case of Mobile, Alabama," **Journal of Regional Science**, 19: 437-447.
2. Chang, Semoon, "Do Disaster Areas Benefit from Disasters?" Paper presented at the 1981 meeting of the American Economic Association in Washington, D. C.
3. Dacy, Douglas C., and Howard R. Kunreuther, (1969). **The Economics of Natural Disasters**, New York: Free Press.
4. Federal Emergency Management Agency. **Federal Disaster Assistance Program, Eligibility Handbook**, DR&R-2, July, 1981.
5. ________________. **Federal Disaster Assistance Program, Handbook for Applicants**, DR&R-1, March, 1981.
6. **Federal Register**, Friday, February 17, 1978, Part IV titled "Mandatory Flood Insurance."
7. 44 FR 31177, May 31, 1979, **Emergency Management Assisttance**, Chapter 1, Federal Emergency Management Agency, Parts 59-75, reprinted by FEMA.
8. Kunreuther, Howard R., (1973). **Recovery from Natural Disasters: Insurance or Federal Aids?**, Washington, D.C.: American Enterprise Institute for Public Policy Analysis.
9. Rettger, Michael J., and Richard N. Boisvert, (1979). "Flood Insurance or Disaster Loans: An Economic Evaluation," **Journal of Agricultural Economics** 61: 496-505.
10. U S. Army, Corps of Engineers. **Hurricane Frederic Post Disaster Report**, Mobile District, February, 1981.
11. U. S. House of Representatives, 97th Congress, 1st Session, Report No. 97-96 titled **Disaster Relief Act Amendments**, dated May 19, 1981.
12. **United States Code**, Congressional Administrative News, 93rd Congress, 2nd Session, 1974, Legislative History P.L. 93-288 titled Disaster Relief Act of 1974, pp. 3070-3116.

Sales Indicated By Sales Tax Collections During July, 1982 By County(000's)

Source: State Tax Commission

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Adams	1,524	35,698	**Hancock**	538	13,109
Alcorn	1,002	29,582	**Harrison**	4,537	115,240
Amite	117	2,555	**Hinds**	10,341	296,116
Attala	357	9,483	**Holmes**	299	6 752
			Humphreys	303	7,725
Benton	56	1,242			
Bolivar	941	23,101	**Issaquena**	12	321
			Itawamba	285	7,940
Calhoun	251	5,992			
Carroll	92	2,091	**Jackson**	3,014	98,439
Chickasaw	302	7,388	**Jasper**	291	6,799
Choctaw	95	2,249	**Jefferson**	77	1,945
Claiborne	410	25,738	**Jeff Davis**	205	5,096
Clarke	218	5,466	**Jones**	2,405	60,380
Clay	320	9,493			
Coahoma	891	22,151	**Kemper**	92	2,023
Copiah	389	8,961			
Covington	491	10,801	**Lafayette**	524	10,399
			Lamar	320	8,579
DeSoto	791	20,310	**Lauderdale**	2,371	63,290
			Lawrence	157	3,480
Forrest	2,394	67,112	**Leake**	260	6,114
Franklin	96	2,540	**Lee**	2,196	71,990
			Leflore	1,052	27,973
George	257	6,043	**Lincoln**	795	20,656
Greene	83	1,844			
Grenada	569	15,663			

County	Total Sales Tax Collections	Indicated Sales	County	Total Sales Tax Collections	Indicated Sales
Lowndes	1,859	53,506	**Simpson**	430	10,427
			Smith	148	3,611
Madison	847	24,823	**Stone**	191	4,485
Marion	802	18,740	**Sunflower**	618	28,856
Marshall	343	7,930			
Monroe	695	18,039	**Tallahatchie**	250	5,748
Montgomery	231	5,535	**Tate**	335	8,574
			Tippah	328	13,431
Neshoba	425	10,731	**Tishomingo**	345	9,518
Newton	313	7,516	**Tunica**	169	3,934
Noxubee	179	4,547			
			Union	359	9,463
Oktibbeha	607	14,174			
			Walthall	226	5,279
Panola	643	15,650	**Warren**	1,267	29,391
Pearl River	655	14,994	**Washington**	1,838	47,340
Perry	281	13,659	**Wayne**	393	8,638
Pike	1,154	26,342	**Webster**	144	3,335
Pontotoc	278	6,636	**Wilkinson**	187	4,620
Prentiss	386	11,213	**Winston**	376	9,182
Quitman	174	4,131	**Yalobusha**	232	5,708
			Yazoo	640	22,137
Rankin	1,755	57,600			
Scott	463	11,723	**State Total**	62,443	1,714,359
Sharkey	157	3,324			

STATE ECONOMIC INDICATORS

Indicator	July 1982[1]	June 1982[2]	July 1981[2]	Per Cent Change One Month Ago[3]	Per Cent Change One Year Ago[3]
EMPLOYMENT, EARNINGS AND HOURS[4]					
Total Employment	932,800	936,100	972,600	— 0.35	— 4.09
Non-Ag Employment	789,600	793,500	818,900	— 0.49	— 3.58
Mining	12,800	12,900	13,000	— 0.78	— 1.54
Contract Construction	39,500	39,200	44,100	0.77	—10.43
Manufacturing	206,500	210,400	223,000	— 1.85	— 7.40
Transportation and Public Utilities	40,400	40,400	40,800	0.0	— 0.98
Wholesale and Retail Trade	163,100	162,800	164,600	0.18	— 0.91
Finance, Insurance and Real Estate	33,100	33,100	33,300	0.0	0.60
Service	120,600	118,600	119,700	1.69	0.75
Government	173,500	176,100	180,400	— 1.48	— 3.82
Unemployment Rate (Per Cent Labor Force)	11.2	10.3	7.8	——	——
Average Weekly Earnings in Manufacturing (Dollars)	244,220	252,010	231,250	— 3.09	5.61
Average Hourly Earnings in Manufacturing (Dollars)	6,360	6,380	5,960	— 0.31	6.71
Average Weekly Hours in Manufacturing	38,400	39,500	38,800	— 2.78	— 1.03
PRODUCTION (000's)					
Petroleum Production					
Production of Crude Petroleum (bbls.)[5]	2,781	2,453	2,933	13.4	— 5.18
Gasoline Delivered to Dealers (gals.)[6]	125,329	116,019	137,136	8.02	-8.61
BANKING AND FINANCE ($000's)					
Loans of Savings and Loan Associations[7]	2,183	13,400	15,400	—83.7	—85.8
Construction Loans	809	2,000	1,400	—60.0	—42.2
PUBLIC UTILITIES					
Sales of Electricity (000's KWH)[8]	2,127,679	2,103,629	2,274,203	1.14	-6.44
Telephones in Service (Number)[9]	1,505,676	1,514,096	1,525,517	— 0.6	— 1.30
RETAIL SALES ($000's)[10]	1,407,311	1,373,794	1,412,579	2.44	— 0.43

Indicator	April 1982	March 1982	April 1981	Per Cent Change One Month Ago	Per Cent Change One Year Ago
AGRICULTURE ($000's)[11]					
Total Cash Receipts from Farm Marketings	112,317	122,572	90,225	— 8.4	24.5
Cash Receipts from Marketing Livestock	80,803	76,163	70,661	6.1	14.4
Cash Receipts from Marketing Crops	31,514	46,409	19,564	—32.1	61.1

[1] Preliminary

[2] Revised

[3] Percent change calculated with revised figures; not comparable with previously published data.

[4] Mississippi Employment Security Commission

[5] State Oil and Gas Board for March

[6] Mississippi Motor Vehicle Comptroller

[7] Federal Home Loan Bank of Little Rock

[8] Mississippi Power Company, Mississippi Power and Light Company and Tennessee Valley Authority

[9] South Central Bell Telephone Company

[10] Mississippi Tax Commission

[11] U. S. Department of Agriculture

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month July	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month July	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month July	Per Cent Change Month Ago	Per Cent Change Year Ago
Aberdeen	9,780	− 2.26	16.19	46,769	9.9	1.0	112,250	51,851	9,000
Baldwyn	4,671	− 0.21	−1.18	21,932	− 0.1	3.9	——	——	——
Batesville	9,176	− 0.85	−0.25	62,643	4.4	16.0	28,300	356,250	77,410
Bay Springs	——	——	——	23,346	− 2.0	4.2	——	——	——
Bay St. Louis	14,552	− 0.21	4.27	37,844	− 1.3	5.4	——	——	——
Belmont	2,337	− 0.98	−2.30	9,339	5.1	−15.7	——	——	——
Belzoni	5,032	− 0.94	−1.95	32,193	18.7	5.4	5,000	51,800	12,100
Biloxi	45,429	− 0.7	−1.76	317,932	11.7	20.2	348,185	1,682,110	481,630
Brandon	11,432	− 0.41	−0.86	38,878	− 7.3	7.5	——	——	227,900
Brookhaven	15,684	−18.89	−2.29	114,117	3.6	1.8	772,440	123,500	29,550
Brooksville	1,340	− 0.37	1.67	2,527	− 2.9	−11.6	——	——	——
Canton	11,046	− 0.60	−0.56	57,561	− 4.6	− 6.6	——	——	——
Carthage	7,410	− 0.27	−1.63	36,304	− 8.7	−10.3	168,000	36,500	145,818
Charleston	4,160	− 0.50	−2.32	18,499	8.8	− 6.7	——	——	——
Clarksdale	20,080	− 0.96	−4.10	125,814	13.6	2.0	2,407,100	146,600	289,990
Cleveland	13,351	− 0.59	−2.70	98,410	3.3	4.8	——	——	——
Collins	4,753	− 0.52	0.76	37,036	−23.4	− 4.2	——	32,500	28,195
Columbia	16,249	− 0.68	0.47	106,148	− 6.0	30.3	——	——	——
Columbus	33,131	− 1.04	− 2.77	218,332	− 4.4	3.4	384,737	230,647	543,565
Corinth	20,620	− 0.44	−3.07	113,505	0.0	− 2.1	78,253	257,400	382,238
Crystal Springs	5,967	− 0.6	−0.20	29,467	−12.8	32.1	——	——	——
Drew	2,910	− 0.34	4.71	11,404	30.2	− 8.1	——	——	——
Edwards	1,715	− 0.06	−1.94	3,587	6.1	− 2.2	——	——	——
Ellisville	3,997	− 0.45	−1.31	17,227	7.4	− 1.1	——	——	——
Eupora	4,451	− 0.51	−0.51	18,447	− 3.3	−25.4	——	——	——
Fayette	3,383	0.0	−0.27	8,748	0.6	−11.1	——	——	——
Forest	5,059	27.17	−1.52	50,625	− 3.9	− 6.5	537,000	194,800	——
Greenville	36,646	− 0.69	−2.31	236,414	0.4	− 8.8	——	——	——
Greenwood	23,347	− 0.89	−4.04	143,095	− 4.4	− 8.5	200,700	704,000	224,400
Grenada	14,182	− 0.78	−2.93	85,903	1.0	4.4	506,000	223,000	108,000
Gulfport	62,936	− 0.82	−0.29	288,007	2.6	5.3	614,510	3,055,537	1,048,251
Hattiesburg	60,880	− 0.65	−0.72	361,237	2.1	1.9	984,541	2,789,060	893,000
Hernando	7,446	− 0.57	−0.15	26,529	17.9	10.3	58,450	34,000	39,500
Hollandale	3,373	− 0.18	−0.21	16,904	36.8	17.2	13,290	4,450	186,043
Holly Springs	7,730	0.09	0.89	40,508	− 2.0	− 6.5	7,000	84,000	——
Houston	5,663	− 0.81	−0.56	30,861	1.6	−44.0	——	——	——
Indianola	7,892	− 0.21	−1.50	65,407	9.0	4.8	——	——	——
Iuka	5,394	− 1.14	−7.24	28,313	7.3	−10.7	——	——	——
Jackson	228,078	− 0.50	−1.26	1,468,401	2.1	3.9	3,579,679	6,959,409	7,552,137
Kosciusko	9,288	− 0.56	−2.76	52,648	− 2.0	− 3.9	110,700	112,000	187,000
Laurel	35,791	− 0.40	−0.38	301,867	− 6.9	−15.1	322,903	398,035	826,753
Leland	5,310	− 0.39	−0.39	23,972	20.5	13.0	4,800	30,575	115,200
Lexington	4,944	− 0.08	−0.67	19,928	− 0.0	−17.6	——	——	——
Louisville	10,611	− 0.49	−1.62	56,689	4.3	14.2	295,538	114,024	——
Lucedale	8,529	− 0.43	−0.83	36,214	−18.1	− 4.3	12,700	600,7000	116,300
Lumberton	2,938	0.17	0.03	9,294	12.7	− 2.1	——	——	——
Macon	3,786	− 0.18	0.11	16,140	− 4.0	5.1	——	——	——
Magee	5,523	0.47	1.02	41,501	−20.1	− 4.1	——	——	——
Magnolia	4,311	− 0.74	−1.37	8,893	− 0.5	−20.6	——	——	——
Marks	5,343	− 0.74	−3.89	16,709	4.4	− 7.2	——	——	——
McComb	20,018	− 0.84	−1.09	137,177	6.0	6.3	164,900	97,575	112,225
Meadville	6,690	− 0.59	1.04	5,030	5.1	−15.4	——	——	——
Mendenhall	——	——	——	19,748	− 5.6	4.4	40,000	——	56,410
Meridian	46,980	− 0.42	−3.06	359,736	1.7	3.9	790,613	1,062,221	871,116
Monticello	5,095	− 0.33	1.47	18,536	−15.8	− 9.1	943,000	32,000	70,250
Morton	3,640	− 0.68	0.50	19,381	5.6	−18.4	——	——	——
Moss Point	16,594	− 0.97	0.39	53,401	12.8	11.8	223,078	248,860	139,738
Natchez	30,595	− 0.56	0.24	225,000	− 2.2	− 2.7	104,418	385,964	1,051,900
New Albany	11,405	− 0.37	− 1.21	56,013	4.8	5.1	91,000	67,615	84,500
Newton	4,164	0.38	− 0.19	23,176	−10.7	− 3.9	37,400	409,000	81,400
Ocean Springs	15,786	− 0.87	−2.05	72,187	− 4.6	5.2	89,363	——	278,023
Okolona	3,407	0.87	−2.85	14,663	− 6.3	2.8	——	——	——
Oxford	20,540	− 0.92	−1.13	79,268	0.5	2.3	332,595	58,727	162,120
Pascagoula	37,446	− 0.50	3.10	209,136	1.4	7.3	——	——	——
Pass Christian	5,859	− 0.89	2.72	14,891	5.9	34.3	——	——	——
Philadelphia	11,812	− 0.18	−0.59	55,804	2.7	− 6.3	——	——	——

BUSINESS ACTIVITY BY CITY

	Telephones in Service			City Sales Tax Collections			Building Permits		
	Current Month July	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month July	Per Cent Change Month Ago	Per Cent Change Year Ago	Current Month July	Per Cent Change Month Ago	Per Cent Change Year Ago
Picayune	16,232	— 0.75	0.30	87,973	4.4	—56.7	266,400	333,509	69,000
Pontotoc	9,448	— 0.93	—1.26	41,658	1.5	10.8	——	——	——
Poplarville	4,311	0.02	1.87	19,539	28.7	23.1	354,000	——	——
Port Gibson	6,083	— 0.69	2.32	15,633	—22.0	— 8.8	——	——	——
Prentiss	——	——	——	19,931	—12.4	— 3.6	1,500	100,500	63,000
Quitman	5,010	— 0.22	0.40	23,859	12.8	— 0.4	——	——	——
Raymond	3,165	— 0.22	3.36	4,688	— 6.5	—16.0	——	——	——
Richton	1,951	— 0.91	—2.98	9,462	6.0	—12.1	20,000	——	——
Rosedale	1,546	— 1.21	—4.51	7,985	17.4	2.0	——	——	——
Ruleville	1,923	— 1.18	—1.03	13,330	6.3	— 3.9	——	——	——
Sardis	3,156	— 0.03	—10.34	19,546	7.4	13.6	43,000	12,000	12,000
Senatobia	6,949	— 0.13	0.36	45,153	— 2.1	8.9	700	7,290	84,000
Shelby	1,587	— 1.43	—3.00	10,514	11.2	—20.0	——	——	——
Starkville	15,267	— 0.59	—37.89	94,803	— 1.4	7.4	57,284	75,765	171,169
Summit	1,694	— 0.47	—0.29	9,346	—17.1	—21.8	——	——	——
Taylorsville	1,809	— 0.44	0.0	12,376	—10.8	— 2.3	——	——	——
Tchula	1,968	— 0.30	—2.72	3,960	—11.7	—24.2	——	——	——
Tunica	4,242	— 0.24	—1.67	17,269	16.2	— 8.4	10,000	55,000	3,800
Tupelo	37,697	— 0.16	—1.76	304,800	— 2.8	1.1	415,668	471,717	991,625
Union	2,921	0.21	2.71	13,702	— 4.0	— 3.7	——	——	——
Utica	3,156	— 0.54	1.06	10,395	21.0	7.0	——	——	——
Vicksburg	38,778	— 0.67	—2.29	210,326	5.3	2.5	94,360	160,889	1,337,014
Walnut Grove	1,070	0.47	0.56	1,380	—22.0	—24.2	——	——	——
Water Valley	4,193	— 0.45	—1.39	25,287	18.4	— 7.4	——	——	——
Waynesboro	7,930	— 0.60	0.24	52,150	—30.1	—24.7	20,000	10,000	654,681
West Point	12,440	— 0.43	—1.62	48,781	— 1.7	— 3.9	41,500	4[illegible]1,436	71,800
Wiggins	6,363	— 0.52	0	23,500	—13.6	— 1.7	73,500	77,000	44,500
Winona	4,980	0.34	0.56	33,003	8.1	7.5	162,400	7,800	——
Yazoo City	12,479	— 0.79	—2.11	63,239	7.2	— 9.2	——	——	——

STANDARD METROPOLITAN STATISTICAL AREAS

JACKSON **[Hinds and Rankin Counties]**	July 1982	June 1982	July 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	159,000	160,800	160,900	—11.2	—11.8
Unemployed Persons	13,800	13,000	10,400	6.2	32.7
Per Cent of Labor Force	8.7	8.1	6.5	——	——
Employed Persons	145,200	147,800	150,500	— 1.8	— 3.5
Non-Ag Wage & Salaries	123,900	126,700	129,700	— 2.2	— 4.5
Manufacturing	19,300	19,300	18,800	0.0	2.7
TELEPHONES IN SERVICE	247,546	248,760	250,270	— 0.5	— 1.1
CITY SALES TAX COLLECTIONS	1,525,949	6,959,409	1,468,862	—56.2	3.9

BILOXI-GULFPORT **[Hancock, Harrison and Stone Counties]**	July 1982	June 1982	July 1981	Per Cent Change Month Ago	Per Cent Change Year Ago
MANPOWER DATA					
Civilian Labor Force	68,830	69,400	67,670	— 0.8	1.7
Unemployed Persons	6,440	5,900	4,460	9.2	44.4
Per Cent of Labor Force	9.4	8.5	6.6	——	——
Employed Persons	62,390	63,500	63,210	— 1.8	16.3
Non-Ag Wage & Salaries	52,420	53,580	53,670	— 2.2	— 2.3
Manufacturing	9,460	9,440	9,000	0.2	5.1
TELEPHONES IN SERVICE	114,224	115,113	115,067	— 0.8	— 0.7
CITY SALES TAX COLLECTIONS	620,830	4,817,697	549,131	—87.1	13.1

[1] Preliminary

Estimated Effective Buying Income For Designated Counties

SOURCE: Computations made by Division of Research at the College of Business and Industry. Percent growth rate refers to the change over the preceeding year. SALES MANAGEMENT SURVEY OF BUYING POWER, further reproduction is forbidden. (in thousands of dollars)

County	1980	% of State	% of Change	1981	% of State	% of Change
Adams	216,209	1.52	7.45	237,481	1.56	9.84
Alcorn	213,439	1.50	6.39	231,318	1.51	8.38
Amite	58,225	0.41	10.08	60,863	0.40	4.53
Attala	71,546	0.50	3.75	72,978	0.48	2.00
Benton	35,682	0.25	12.75	36,026	0.24	0.96
Bolivar	204,528	1.43	3.09	209,178	1.37	2.27
Calhoun	79,129	0.56	7.64	81,629	0.53	3.16
Carroll	40,173	0.28	13.59	43,689	0.29	8.75
Chickasaw	92,436	0.65	7.20	95,698	0.63	3.53
Choctaw	34,989	0.25	12.40	35,543	0.23	1.58
Claiborne	60,167	0.42	10.82	67,356	0.44	11.95
Clarke	87,171	0.61	11.78	92,441	0.61	6.05
Clay	129,983	0.91	13.32	135,777	0.89	4.46
Coahoma	158,552	1.11	3.95	160,038	1.05	0.94
Copiah	122,227	0.86	9.82	125,277	0.82	2.50
Covington	67,071	0.47	17.29	72,962	0.48	8.78
DeSoto	327,062	2.29	17.19	362,968	2.38	10.98
Forrest	401,248	2.82	13.67	428,428	2.81	6.77
Franklin	37,490	0.26	0.84	39,094	0.26	4.28
George	77,405	0.54	5.60	79,993	0.52	3.34
Greene	30,850	0.22	1.22	31,493	0.21	2.08
Grenada	118,180	0.83	2.75	121,182	0.79	2.54
Hancock	118,501	0.83	29.18	130,287	0.85	9.95
Harrison	1,036,864	7.27	18.01	1,103,332	7.23	6.41
Hinds	1,947,013	13.66	15.56	2,116,467	13.86	8.70
Holmes	79,114	0.56	17.37	86,174	0.56	8.92
Humphreys	55,453	0.39	18.70	59,800	0.39	7.84
Issaquena	12,561	0.09	31.97	13,077	0.09	4.11
Itawamba	90,310	0.63	22.32	98,116	0.64	8.64
Jackson	977,215	6.86	9.74	1,026,037	6.72	5.00
Jasper	69,449	0.49	22.49	77,122	0.51	11.05
Jefferson	34,165	0.24	17.37	35,350	0.23	3.47
Jeff Davis	55,830	0.39	13.92	59,929	0.39	7.34
Jones	397,032	2.79	9.55	432,274	2.83	8.88
Kemper	35,984	0.25	15.88	37,684	0.25	4.72
Lafayette	173,918	1.22	15.17	195,303	1.28	12.30
Lamar	122,796	0.86	22.38	133,807	0.88	8.97
Lauderdale	484,928	3.40	14.15	516,882	3.38	6.59
Lawrence	60,840	0.43	6.13	62,087	0.41	2.05
Leake	76,300	0.54	7.76	80,585	0.53	5.62
Lee	406,643	2.85	7.11	44[illegible],332	2.9[illegible]	8.78
Leflore	195,976	1.37	4.54	203,027	1.33	3.60
Lincoln	151,845	1.07	17.03	167,483	1.10	10.30
Lowndes	378,644	2.66	16.05	419,785	2.75	10.87
Madison	189,964	1.33	37.70	208,483	1.37	9.75
Marion	113,980	0.80	18.33	122,166	0.80	7.18
Marshall	125,739	0.88	30.36	135,475	0.89	7.74
Monroe	199,049	1.40	7.12	214,859	1.41	7.94
Montgomery	52,361	0.37	22.72	55,661	0.36	6.30
Neshoba	123,058	0.86	6.25	127,246	0.83	3.40
Newton	104,731	0.73	14.30	109,057	0.71	4.13
Noxubee	53,146	0.37	14.84	53,928	0.35	1.47
Oktibbeha	196,946	1.38	9.83	217,738	1.43	10.56
Panola	120,086	0.84	14.93	127,831	0.84	6.45
Pearl River	172,196	1.21	21.08	189,738	1.24	10.19
Perry	49,232	0.35	1.71	52,049	0.34	5.72
Pike	176,584	1.24	6.84	186,228	1.22	5.46
Pontotoc	95,705	0.67	7.27	102,544	0.67	7.15
Prentiss	112,039	0.79	12.34	115,630	0.76	3.21
Quitman	40,963	0.29	8.15	42,175	0.28	2.96
Rankin	418,030	2.93	23.53	463,535	3.04	10.89
Scott	106,974	0.75	11.21	119,252	0.78	11.48
Sharkey	32,768	0.23	4.53	33,997	0.22	3.75
Simpson	124,411	0.87	19.15	127,426	0.83	2.42
Smith	74,353	0.52	6.08	79,312	0.52	6.67
Stone	46,836	0.33	23.35	48,811	0.32	4.22
Sunflower	130,766	0.92	2.26	136,435	0.89	4.34
Tallahatchie	70,217	0.49	— 3.27	72,288	0.47	2.95
Tate	102,365	0.72	5.50	113,379	0.74	10.76
Tippah	86,738	0.61	8.51	93,501	0.61	7.80
Tishomingo	91,360	0.64	15.10	102,641	0.67	12.35
Tunica	34,947	0.25	8.64	35,492	0.23	1.56
Union	131,304	0.92	9.62	138,187	0.90	5.24
Walthall	56,039	0.39	12.65	61,790	0.40	10.26
Warren	316,122	2 22	8.97	336,151	2.20	6.34
Washington	410,427	2.88	11.02	430,483	2.82	4.89
Wayne	84,076	0.59	22.06	86,181	0.56	2.50
Webster	50,234	0.35	10.87	52,998	0.35	5.50
Wilkinson	39,829	0.28	7.78	43,391	0.28	8.94
Winston	90,498	0.63	7.64	91,461	0.60	1.06
Yalobusha	64,593	0.45	15.53	71,775	0.47	11.12
Yazoo	13[illegible],754	0.9[illegible]	8.5[illegible]	152,6[illegible]2	1.00	9.24
TOTALS	[illegible]3,563	[illegible]	[illegible]	15,[illegible]08	[illegible]	7.13